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Next Month

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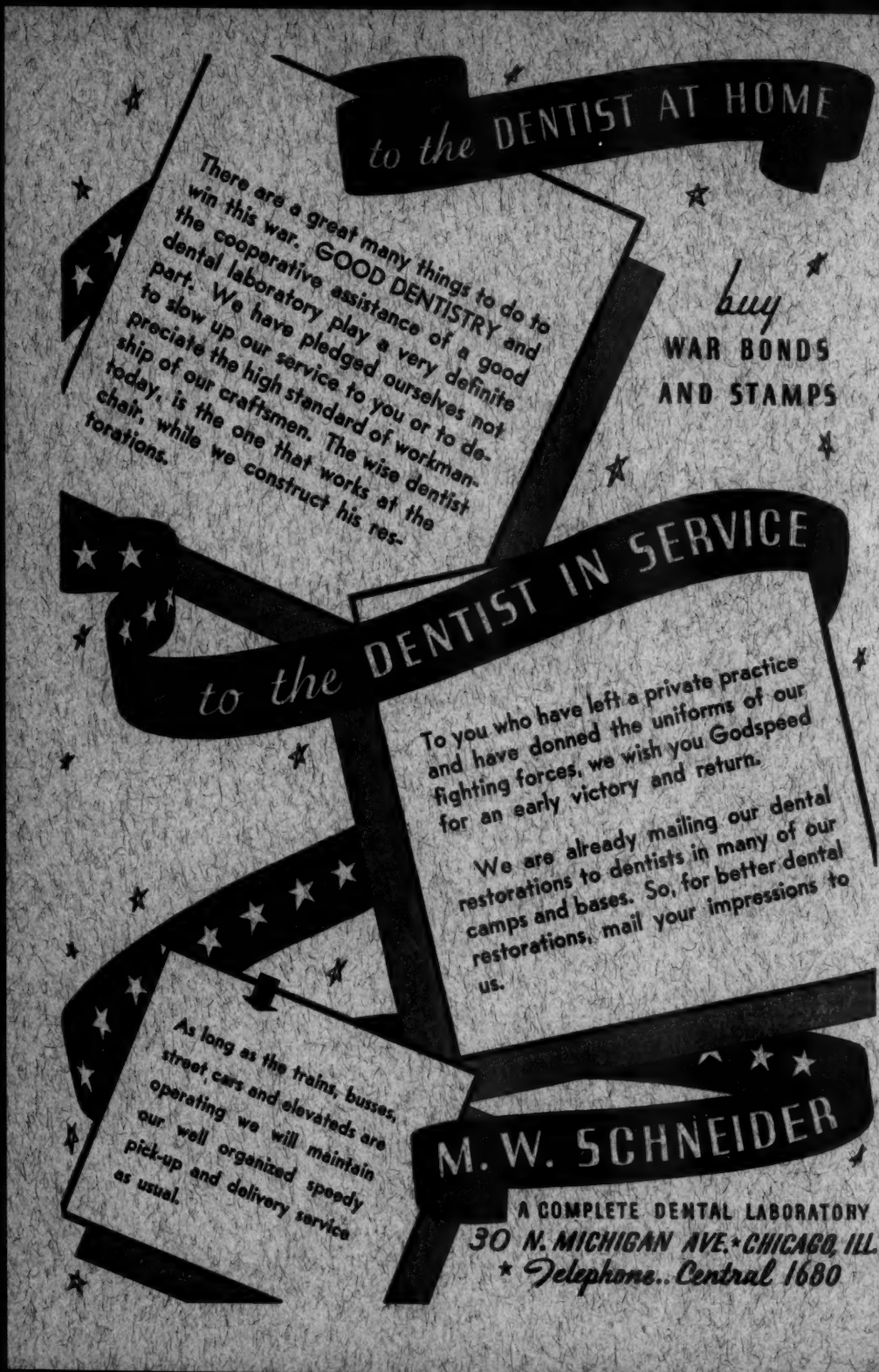
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ILLINOIS
Dental Journal

CONTENTS

VOLUME 12 AUGUST, 1943 NUMBER 8

A Contribution to the Etiology of Dental Caries
By Veikko O. Hurme, D.M.D. 331

The Place and Duties of the Dentist in the Army and Navy
By Paul W. Clopper, Colonel, D.C., A.U.S. 333
By F. F. Molt, Captain, D.C., U.S.N.R. 335

Biochemistry in Relation to Dentistry
By David L. Thomson, M.A., Ph.D. 337

The Armed Forces in the Dental Schools 348

The President's Page
By Frank J. Hurlstone, D.D.S. 350

Editorial 352

Here and There
By James H. Keith, D.D.S. 356

Current News and Comment 359

The Notebook 366

Obituary 372

Component Societies 374

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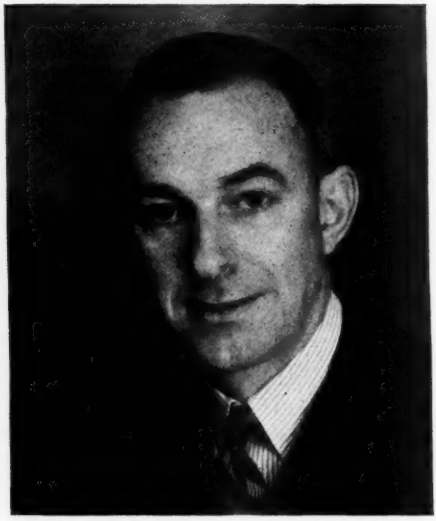

H. C. BURT

H. C. Burt, of LaSalle, was recently elected to membership on the Executive Council of the Illinois State Dental Society for the Northeastern District. Dr. Burt was graduated from Northwestern University Dental School in 1916 and became a member of the state society the same year. He has been a life member since 1941. He has served as president and secretary of the LaSalle component and was chairman of the Clinic Committee for the 1938 state meeting. He is a past Commander of the St. John Commandery, Knights Templar and held a commission as first lieutenant in the army dental corps reserve from 1918 to 1923.

ILLINOIS
Dental Journal

VOLUME 12 AUGUST, 1943 NUMBER 8

A Contribution to the Etiology of Dental Caries*

By VEIKKO O. HURME, D.M.D.†

The author presents in brief an attempt to analyze the occurrence and distribution of dental caries from studies and research which treat the problem as a part of the general phenomena of tissue growth and maintenance.

Attempts to explain the characteristic, uneven distribution of carious lesions solely on the basis of such possible localizing factors as microbic plaque formation, differential adsorption of fluorides from the drinking water, natural anatomical contour, uneven cleansing action of the tongue, lips, saliva, etc., have not proved wholly satisfactory. As all explanations on unifactorial bases have appeared more or less inadequate, it was decided to attack this important stomatologic problem from a new direction and to treat the local phenomena of dental disintegration as part and parcel of the general phenomena of tissue growth and maintenance. In brief, an attempt was made to analyze the occurrence and distribution of dental caries from the standpoint of possible multifactorial causation, requiring careful evaluation of a large number of forces, including those operating at the time the teeth are formed.

Utilizing in part data made available through the independent researches of several investigators, the gross rates of enamel formation in different morphological classes of teeth were calculated in several different ways. These figures were then compared with the results of several analyses, including the author's own, of the distribution of carious lesions in the permanent teeth of various groups of people. The frequencies of occurrence of post-eruptive disintegration of enamel were found to be closely proportional to the over-all rapidity of the complex physiologic processes of growth and development associated with enamel formation that take place between the initiation and cessation of amelogenesis in each class of teeth. The first molars, whose crowns were found to be formed most rapidly, had the highest caries fre-

*A preliminary report.

†University of Illinois, College of Dentistry; brief biography at end of article.

quencies, while the reverse was true in the case of mandibular canines and incisors, whose enamel forming processes appeared to be the slowest of all. It was also noted that, as a group, the maxillary tooth crowns develop faster than the mandibular ones.

These findings suggested the inference that a high degree of activity by the ameloblasts at the time of amelogenesis, or their development and activity at a time when the physiologic conditions are not optimal for such activity, or both, may be associated with the production of enamel of inferior quality. They also suggested that teeth are no exception to the general biologic law which states that rapidly forming tissue is more liable to injury than slowly forming tissue.

Character of Enamel

In order to test the correctness of this hypothesis the author made several analyses of the occurrence, character and distribution of developmental discrete enamel opacities—the "white spots" described by G. V. Black and the definitely localized varieties of the "opaque enamel" recently well described by B. G. Anderson. Part of the material used in these analyses was furnished through the courtesy of the United States Children's Bureau, working in cooperation with the Dental Study Unit at Yale, headed by B. G. Anderson. A series of 170 individuals with complete dental examinations (performed personally by the author) and rather complete physical and medical records was studied.

The results of these analyses were fully confirmatory of the plausibility of the aforementioned hypothesis. As in the case of carious lesions, it was found that developmental discrete enamel opacities occur with the greatest frequency in the teeth that are formed most rapidly. They were also found to occur most frequently in the tooth surfaces which are most often attacked by dental caries. The conclusion must not be drawn, however, that "spotting" of the teeth by itself can eventually lead to a carious dissolution of enamel, for the dentitions studied comprise several with much spotting but little caries and several with no macroscopic spotting but much caries.

Conclusions

The author's conclusions are in full accord with the findings of several investigators who have studied teeth histologically. They are also supported by many other important considerations, among which may be mentioned the caries-experience in the sexes and in various ethnic groups and somatotypes, the influence of ill health and deficient diet on the teeth, and the exclusion of an explanation on the basis of the mathematical laws of chance operating after the eruption of the teeth into the oral cavity. If verified by other investigators, these findings will serve to link the study of odontoclasia incontrovertibly with the study of many growth phenomena, and may necessitate a complete re-evaluation of many hypotheses and clinical practices in the field of dental medicine.

A complete report on this study, together with full data, is still in the process of preparation.—*808 South Wood Street, Chicago.*

Dr. Hurme, who was born in Finland, joined the staff of the University of Illinois, College of Dentistry in 1941 as assistant professor of operative dentistry. He received the degree of D.M.D. from Tufts College Dental School in 1934 and was on the staff of that institution from 1934 to 1938. In 1938 he received an appointment as research assistant in the School of Medicine, Yale University. Dr. Hurme served as resident in dental surgery at the New Haven Hospital in 1939. Following the completion of his residency he returned to Tufts and was on the staff there until he came to Illinois. He divides his time between teaching in the department of operative dentistry and research on dental caries.

The Place and Duties of the Dentist in the Army and Navy

The following two articles describe in detail the place and duties of the dentist in both branches of the country's military service. Col. Clopper has discussed the activities of the dental officer in the army and Capt. Molt, the navy.

DUTIES OF AN ARMY DENTAL OFFICER

By Paul W. Clopper, Colonel, Dental Corps,
Army of the United States

The duties of a dental officer in the Army of the United States are manifold and have to do with varied activities in addition to those of his chosen profession.

As an officer of the army he is expected to have or to acquire a knowledge of army organization, customs, courtesies, administration and tactics so that he may better function as an integral part of a great machine.

When a civilian dentist is commissioned as a dental officer it is assumed his professional qualifications are satisfactory and complete and it remains for him to be trained only in army routine so that he may be a valuable addition to both the military and the particular branch of his assignment.

Military Training

The military training is obtained either by assignment to the Medical Field Service School at Carlisle Barracks, Pennsylvania, to a Medical Replacement Training Center Officers' Pool or with the different organizations of original assignment.

At these different installations the dental officer receives his indoctrination and instruction in the basic principles of army routine including customs and courtesies, drill, defense against chemical attack, supply, administration, medical corps tactics and other allied subjects.

Upon first assignment a dental officer may find himself assigned to a station hospital or troop area clinic of from four to twenty-five chairs. Here he may be assigned to the operative, oral surgery or prosthetic sections depending somewhat on the need of these different sections and the officer's particular ability. However, a dental officer is expected to fill any position where needed.

Trained officers are assigned as chiefs of sections, as supply officers and, when available, as instructors in basic training for new officers. The officer's basic training in army routine and the above mentioned subjects are given while not on actual clinic duty.

Primary Duty

When a dental officer is assigned to a tactical organization his primary duty is that of a regimental or battalion dental surgeon but he is also an assistant to the surgeon, in an advisory capacity, on dental problems and in combat is an assistant battalion surgeon where he may be called upon to take charge of a battalion aid station for the evacuation of the wounded.

While in training areas the battalion dental surgeon not only receives training in dental administration but participates in the training of the tactical unit of which he is a member.

It is an absolute necessity that the battalion dental surgeon be familiar with the routine and functions of the tactical organizations to which he is assigned. In his organization he may be ordered to act as paymaster, sanitary inspector, mess officer or many other duties in addition to carrying on the dental service.

In many instances the dental officer while acting as an assistant surgeon in combat finds himself temporarily the battalion surgeon. It is therefore mandatory that he be trained in the treatment of first aid shock, chemical burns and the use of arm and leg splints.

The field dental chest known as M.D. chest #60 is not carried in the forward combat zone, but in place of this chest the dental surgeon carries an individual dental kit and his assistant carries two similar bags with shoulder slings filled with the necessary instruments and supplies to render dental first aid.

Dental service in the army is regarded as a specialty within the medical department and because of this arrangement all dental officers must have a thorough knowledge of medical department functions and will find a closer association with medical officers than is found in civilian life.

Primary Mission

The primary mission however of the dental corps is the dental care of the command in such a way that the soldiers are away from their units for the shortest possible time for treatment, and that the greatest good is accomplished for the greatest number in the shortest time. Before a soldier is available for foreign service he must have the minimum requirement of natural or artificial serviceable teeth to masticate the army ration.

The secondary mission of the dental corps, that of rendering first aid and assisting the medical department in the evacuation of battle casualties, now becomes the primary mission.

Definitive dental treatment is usually first rendered at a clearing station of a medical battalion installation of a division. The clearing station is installed four to seven miles behind the front line. Non-transportable maxillo-facial cases are cared for at a surgical hospital where a maxillo-facial team, consisting of one oral surgeon, one plastic surgeon, nurses and technicians, will be found. Here also one lieutenant of the dental corps in the technical section is assigned, equipped with field chest #60; dental field laboratory equipment chests #61 and #62 are also available at a surgical hospital. This dental officer assists the maxillo-facial surgeons when a maxillo-facial team is not present.

The maxillo-facial teams are a part of an auxiliary surgical group; this group is made up of reserves of surgical specialists divided into teams, one group to each field army. They are highly mobile and available for service anywhere in the theater of operations to supplement the regular installations, generally of surgical, evacuation and general hospitals.

Evacuation Hospitals

The evacuation hospital follows next in the chain of evacuation with service similar to surgical hospitals. Three dental officers, two portable operating units and one portable laboratory unit are in this installation.

The general hospital is next in evacuation and is usually a fixed installation throughout the period of combat. Five dental officers are on duty here and should be men of wide experience in surgical and operative procedure. Considerable maxillo-facial repair with the use of splints and other prosthetic appliances will be given in this installation. Here again the object of treatment is to return the soldier to a military duty as soon as possible or to a civilian occupation in as good a condition as possible.

When prolonged treatment and recuperation is indicated the patients are transferred to hospital centers, convalescent hospitals and camps where dental officers in varying numbers are on duty and permanent work of every nature is completed.

Dental officers are also assigned to general dispensaries where dental service is maintained for officers and men on duty with general headquarters. Refresher courses in oral surgery and prosthetics are given in several of the army general hospitals and a few colleges and civilian hospitals. Selection of officers for these courses is based on past records as to ability to adjust themselves to military-dental surgery. These officers must be carefully selected for this special training as they will be assigned to key positions for rehabilitation of the wounded.

Equipment of Installations

The equipment that a dental officer will find in the different installations is as follows:

Station, camp and general hospital clinics are fully equipped with all the equipment that goes to make a modern civilian office of today. Operating equipment consists of a chest #60 made up of selected standard operating instruments, folding chair, foot engine and materials sufficient for standard operating procedures in the field.

Contents of Kit

The dental officer's kit consists of standard medical department pouch with selected instruments and materials for emergency work, where the #60 chest is not available. The dental assistant's kit consists of two standard medical department pouches with additional supplies to augment those carried by the dental officers. The portable field dental laboratory consists of two chests packed with standard laboratory equipment and supplies sufficient to construct or repair ordinary cases of prosthetics. This laboratory equipment is normally found in each medical hospital.

Equipped with the best of material, supplies and personnel, the dental service of the armed forces of the United States is to be found on every front, on land, sea and in the air doing its duty in a manner that will bring honor to the profession.—*Fort Sheridan, Illinois.*

THE NAVY DENTAL OFFICER ASHORE AND AFLOAT

By F. F. Molt, Captain, Dental Corps,
United States Naval Reserve

With the enormous expansion of the armed forces, the navy dental corps has, of course, been amplified and the reserve added to in great numbers. So large a proportion has been called to active duty that the granting of commissions will continue, chiefly among dentists in the younger age group, and it may therefore be of interest to outline the duties that will fall to the lot of these "sailors."

As far as the uniform is concerned, no distinction is made between a reserve and a regular officer, nor, in general, in the duty to which he may be assigned—except that the "battle-wagons" and other larger units of the fleet are usually manned by regulars. Any reserve officer under the age of thirty-two who feels the allure of navy life has the opportunity to take the examination for the navy dental corps (held at least once a year) in which active duty in the reserve will count to his credit.

Although many reserve officers are ordered directly to far-flung duty, the major proportion are assigned first to such a shore station as Great Lakes. Here the new officer undergoes a period of indoctrination in navy customs and usages. Meanwhile his abilities are evaluated as he works under supervision. Any apparently needed added instruction is given in as great a measure as possible, the intent being to prepare him to handle adequately any problems he may encounter when assigned to a billet on individual duty—without benefit of consultation with or assistance from a senior or more experienced officer. His skill, judgment and general characteristics are summed up in regularly rendered "fit-

ness reports" and his chances of promotion as well as the type of duty to which he may eventually be ordered depend in a great measure upon these reports.

The scope of the dental services rendered ashore is not exceedingly comprehensive. Salvageable teeth are filled, either with alloy or silicate. Pulpectomies and canal fillings are done only in occasional, single-rooted teeth. Some apicoectomies and frequent cyst removals are done. Most of the impacted third molars discovered as well as submerged teeth with infected opercula are extracted (with adequate postoperative care). Exceedingly doubtful teeth that one might gamble on in private practice are extracted for the very obvious reason that the sailor cannot be permitted the chance of having such a tooth flare up at a critical time and, perhaps, in a situation where no dental service is available.

Increased Services

Until very recently no prosthetic replacements were constructed in navy dispensaries, other than in naval hospitals and those chiefly for service-acquired dental disabilities. Applicants for enlistment who required such replacements in order to qualify had to provide them at their own expense from civilian dentists. Within the last two months, however, that situation has been completely reversed and at the present time the dental requirements for recruits have been so reduced that they actually need have only two jaws, one upper and one lower, upon which dentures can be built. An ambitious prosthetic program has been embarked upon with complete laboratories to be constructed at once. In the meantime a multitude of recruits have been and are being prepared by extractions (and alveolectomy where indicated) for partial and complete dentures. This has added to the field that the navy dentist must needs cover.

Because the dental officer when detached is expected to be familiar with most of the problems he may later encounter, he does not specialize but takes his cases as they come—fillings, extractions, etc.—having at hand at all times a more experienced officer to whom he may turn if in need of advice or help.

In the navy as in the army the dental department is a part of the medical department. By naval regulations the dental officer shall not be called upon to assume any of the professional duties or responsibilities of the medical officer. Nevertheless aboard ship the dental officer, having perhaps the only x-ray machine aboard, may be expected to do any medical x-ray work possible or he may assist in operations or give anesthetics. During battle he may be assigned to a battle dressing station below decks. In the Pearl Harbor exigency, with many of the medical officers either ashore or incapacitated by wounds, the dental officers stepped into the breach in many instances and rendered efficient service. This has been the case in other situations as well and in consequence the dental officers are expected to be well founded in medical first aid and in the initial care of casualties.

Varied Assignments

There is no way of anticipating the type or location of the duty to which the dental officer may be assigned when he is detached, after his period of training and indoctrination. His billet may be a shore activity in connection with navy training, of which there are, for instance, well over fifty in the Ninth Naval District alone, including the aviation bases and the various training schools with which so many middle west universities have concerned themselves. On the contrary the officer may draw duty with the Marine Corps (an integral part of the navy) or perhaps with the Sea-Bees—the construction battalions that have gone to remote points on the globe. Some of our "graduates" are now installed on distant islands and under most adverse conditions and with meager equipment are handling their problems with the utmost ingenuity. Some have landed in

(Continued on page 365)

Biochemistry in Relation to Dentistry*

By David L. Thomson, M.A., Ph.D.†

The main purpose of this paper is an attempt to show that the science of biochemistry is now passing through a stage of organization and clarification. The relation of dental caries to nutrition is discussed. A comprehensive discussion of biochemistry and its relation to other sciences is given by Dr. Thomson.

Some time ago, when I was still struggling to put my plans for this paper into final form, I happened to tune my radio to the wrong station and to find myself listening to an address by a fervent and pious gentlemen, who believed that we could find in the "Old Testament" all the data required to enable us to predict in detail the outcome of the present world war. Daniel's fiery furnace was obviously a symbol of this conflagration; and the reverend speaker easily identified Shadrach with Stalingrad, and Meshach with Moscow, although I fancy he was having a little difficulty with Abednego.

It was not, I thought, a very convincing argument; and yet I felt a certain sympathy with the speaker. Was he not, after all, attempting—according to his lights—to fit things together; to make some kind of pattern of sense out of this chaotic universe; even if his sense was but nonsense to me?

Science a Jigsaw Puzzle

I often feel that the whole of science is like a vast jigsaw puzzle; the millions of "pieces" are our observational and experimental data, past, present and to come; and our task is to fit them together, and to make of them a complete and coherent picture of the universe. There are some areas, I suppose, already largely filled in: in human anatomy, for example, or in classical mechanics. There are others where a vast pile of relevant fragments has accumulated, but little progress has been made in assembling them; and others again where we need far more data before we can hope to rough-out our picture.

I sometimes warn my students that they will miss a great deal of the pleasure of a scientific career, unless they can feel a keen and unselfish satisfaction in seeing things fit together, in linking facts into a pattern. We all hope to make discoveries of our own; we all hope to benefit humanity, sooner or later; we must all be wary of rash generalizations; and yet I think that one of the sharpest spurs to scientific endeavor is a pure and abstract delight in comprehension.

Thrill of Discovery

To remember that our word "dollar" is the old German word "thaler," and originally meant a piece of silver from the mines of Joachimsthal—the same mines which, centuries later, supplied the ore in which Marie and Pierre Curie discovered radium; to recall the theory that the dollar sign, $, can be traced back to Spanish silver circulated in ancient Rome, and may be a very much simplified imitation of a design which originally showed a spiral wreath trailed around a picture of two vast and upright rocks, the twin rocks that guard the entrance to the Mediterranean at the Straits of Gibraltar—these are two useless little pieces of information, which never made anyone a cent the richer, nor any man the happier. And yet, if you do not feel some thrill of pleasure

*Read before the Odontographic Society of Chicago, December 14, 1942.

†Professor of Biochemistry and Dean of the Faculty of Graduate Studies and Research, McGill University, Montreal, Quebec.

and satisfaction at gaining this worthless scrap of knowledge, at seeing these unimportant things so neatly linked up, then I am afraid that science is not for you.

I suppose most of us have lived through the rather trying experience of attempting to work out a jigsaw puzzle, with the enthusiastic but often infuriating assistance of the other members of our families. One always feels, on such occasions, that half of one's helpers are blind to shape, and the other half blind to color! Yet gradually progress is made: and one comes at last to the exciting stage where one is no longer merely fitting individual pieces together, but large composite blocks and islands begin to join up and the picture takes shape—sometimes unexpectedly. You all know the thrill of the discovery that a seemingly-superfluous blue area is not sky from the top of the picture, but the surface of a lake in the foreground: or that the two horses which baffled you because one seemed to be standing on its head, become resolved into a single horse and its reflection. The picture may still be far from completion, but it begins to make sense as a coherent whole.

Periods as Symbols

There are periods of this kind in the history of science: when a whole field of knowledge takes shape and begins to make sense as a whole. Very often we associate such a period with the name of one man, a Harvey, a Newton, a Pasteur, a Freud; perhaps even with that man's greatest single discovery; but usually this is but a symbol in our minds for a whole era of clarification and cooperative progress. No one man can claim credit for that vast revolution in medicine which linked micro-organisms with disease. No single discovery could be a broad enough foundation for the whole structure of modern atomic physics. Every innovator stands upon the shoulders of his predecessors.

It is one of my main purposes in this paper to try to show that the science of biochemistry is now, in this decade (distracted as it is by wars and rumors of wars), passing through one of these epochs of organization and clarification. Like a man reaching mental maturity, it is beginning to weld its experiences into a connected philosophy. It is not so much a matter of unexpected dramatic discoveries, but rather a matter of finding solutions to very old and fundamental problems. The picture is beginning to take shape.

Picture as a Whole

Comparatively few people seem to be aware of this; it is not an easy matter to publicize, and many of those concerned are so busy struggling with their own little corner of the jigsaw that they have no eyes for the picture as a whole. The average physician thinks of biochemistry in terms of the hospital laboratory; he is satisfied if he can join the results of a blood-analysis to his own clinical impressions and construct a usable diagnosis. At least, however, he finds these rather superficial aspects of biochemistry of practical value in his professional life from day to day. Biochemistry does not, unfortunately, offer these useful services to the average dentist; who probably regards the subject (and I do not blame him) as a tiresome and unnecessary hurdle which a purblind faculty placed in his path towards graduation, and which he is happy to have surmounted and forgotten. There are many members of the profession, of course, who maintain an active and profitable interest in the science; among them I see a large group struggling for possession of one particular fragment of our jigsaw. At first sight this fragment seems to be a bone of contention, but when we look again we see that it is not a bone, but a tooth—a carious tooth; and our friends are strenuously attempting to force it into some kind of congruence, first with this vitamin, then with that, all the way down the alphabet. It may be that they will succeed; but I shall have more to say of this later on.

Before taking up points of that kind, with their specific relations to dental practice, I should like to sketch in broad outline some recent advances in biochemistry; this as a justification for my claim that the science as a whole is falling into shape and order and beginning to venture upon the enunciation of general principles. The discoveries to be stressed now may have little or no immediate application to dentistry; but if they are (as I believe) fundamental to biochemistry, then sooner or later they will have to be taken into account when dentistry and biochemistry seek a rapprochement. The forbidding history of the past few years has given us examples enough of the fact that two nations cannot long maintain satisfactory diplomatic and economic relations, if they ignore each other's fundamental political structure and ideals.

Discussion of Water

The first topic to be discussed is that of water, which is present in all tissues, making up some 5 per cent even of the enamel of the teeth, and more than two-thirds of the total weight of the body. Suppose that we inject 12 cubic centimeters of a 1 per cent solution of a suitable dye, such as "brilliant vital red" or "Evans' blue T-1824," directly into the antecubital vein; four minutes later we draw a sample of blood from the other arm, throw down the red cells, and examine the plasma. The dye is present in this sample of plasma in measurable concentration, but that concentration is only about one three-hundredth of our original 1 per cent. We conclude that our original 12 cc. of dye has been diluted by admixture with a volume of fluid three hundred times greater, that is, 3,600 cc. Knowing that (apart from slight leakage into the thoracic lymph) the dye remains within the blood-vessels, since it is bound by the proteins of the blood plasma, we identify this volume of 3,600 cc. as the volume of the whole of the blood plasma within the body of our experimental subject; from this the total blood volume may be estimated.

Let us now repeat this imaginary experiment, but instead of using one of these dyes let us use a solution of some simpler substance, which can be measured by chemical means, such as cane sugar, or sodium bromide or sodium sulfocyanate. This time, when we withdraw our blood sample and analyze it, we shall find that the injected material has not merely been diluted three hundred fold, but perhaps fifteen hundred fold. It is clear that the sucrose or bromide or sulfocyanate we injected has not remained within the circulation, but has diffused out into a volume of fluid some five times larger than the blood plasma and equal to about one quarter of the total volume of the body; several different sorts of injected substance will give us the same answer.

Heavy Water

There are some substances which give us a different answer: the ideal one is "heavy water," deuterium oxide, which differs from ordinary water only in being some 10 per cent denser; we may also use a simple organic molecule such as thiourea, and perhaps even sulfanilamide. These substances, in a similar experiment, will undergo dilution to a much greater extent than sucrose or sulfocyanate, and we may calculate that they have diffused into a volume which is at least two-thirds of the total volume of the body.

It is not very hard to explain these apparent discrepancies. We believe that sucrose and bromide and sulfocyanate can escape out of the blood-vessels and diffuse into the tissues, and spread all through the interstices between each living cell and its neighbors: but that they cannot pass into the living cells themselves; hence they are not diluted by the water that is within the living cells, only by the water which bathes them. On the other hand, "heavy water" and sulfanilamide can and do enter the living cells, and they accordingly are diluted by the total volume of all the water there is

within the body, about two-thirds of the body weight or rather more. Such experiments, then, enable us to make a distinction between the "extracellular fluid" which is outside the living cells, and which amounts to about one-quarter of the total volume of the body (or about eighteen quarts for an average man), and the "intracellular fluid" which is within the living cells and whose volume is almost twice as great.

There can be no doubt that the relations, the interactions, the commerce between these two bodies of fluid are of the utmost importance in the life of the body. The principal mineral salt of the extracellular fluid is ordinary sodium chloride, but within typical cells we find neither sodium nor chlorine; their place is taken by potassium salts. If this difference becomes exaggerated, as in periodic paralysis, we find an alarming rigid inability to move the voluntary muscles; if the difference diminishes, as in Addison's disease, we find an equally alarming limp asthenia and loss of muscular power. Again, we may consider the hydrogen ion concentration or pH of the two fluids: by administering sodium bicarbonate, we can make the blood and the extracellular fluid more alkaline, but it has recently been shown that in the muscles at least the intracellular fluids simultaneously become more acid. This paradox bears on an important practical point studied in my laboratory years ago: the giving of bicarbonate to a patient with a gastric ulcer may neutralize acid for the moment, but it stimulates the production of more acid and is thus undesirable in the long run.

First Fundamental Problem

I deliberately selected, as my first type of fundamental problem in biochemistry, a rather complex and elusive one which still requires much clarification. Let me now try to make up for this by offering a rather short and simple one. One of the chief chemical activities of the brain is to oxidize glucose sugar; the brain, more "choosy" than other tissues, uses hardly any other fuel. We can interfere with this activity in three ways. We can reduce the supply of sugar, by deflecting it to the muscles with insulin; we can reduce the supply of oxygen, for instance by breathing carbon monoxide or by ascending to 20,000 feet in an airplane; or, thirdly, we can hamper the intracellular enzymes which bring the sugar and the oxygen into reaction, by using some drug with suitable narcotic properties, such as alcohol. In some individuals, though not in all, the effects will be strikingly similar whichever of the three methods we select: they are effects already familiar to all of you in one of the three connections. The subject will become clumsy and incoordinated, his speech will become blurred, his senses begin to fail, and yet he will not personally be in the least alarmed; on the contrary, he will feel like millions of dollars.

True Story

There is a true story of a very eminent American physician, who had the misfortune to develop severe diabetes some twenty years ago; his was, in fact, one of the first and the most valuable lives saved by the discovery of insulin. One day, while walking in the street, he became aware that he had had an overdose of insulin, and turned into a drug-store to get some sugar or candy to meet the emergency. By this time the train of symptoms I have just described had become so pronounced that the clerk took him to be a drunk and promptly kicked him out into the street. This so infuriated our physician, and produced such a vigorous reaction from the sympathetic nervous system and adrenal glands that his blood sugar temporarily rose again—long enough to allow him to walk a block and bestow his custom upon a rival store.

I have myself seen a celebrated English scientist, voluntarily exposing himself to low oxygen pressures, pick up a mirror to see if his lips became blue; and gaze long and earnestly into the back of the mirror—almost exactly duplicating the

feat of the lengendary drunk who looked at himself in the hair-brush and moaned, "My God, I do need a shave." Speaking more seriously, we can be sure that it is this unawareness of deterioration that makes high altitudes such a trap to aviators, and carbon monoxide so insidious a poison. Only a month ago, an acquaintance of mine and all his family were poisoned from a leaky furnace, and rescued only by chance and at the last moment: he described himself as sitting calmly in his armchair, and watching his wife faint upon the floor, without alarm or even much interest. I might remark in passing that in the advanced stages of sea-sickness one has a similar lack of interest in the sufferings of others; but there the resemblance ceases, for one is, alas, only too well aware of one's own.

Versatility of Atoms

If you could tolerate an example from a more purely chemical field, I should like to draw your attention to a type of economy in nature of which we have recently become very much aware. Nature, they say, is the great teacher; but even she seems to have her "teacher's pets." There is, for instance, a particular arrangement or pattern of eighteen carbon atoms, arranged in four conjoined circles, which she has used over and over again in the history of evolution and for a very wide variety of purposes. Let me give you a brief list of substances in which this pattern is known to occur, with only minor additions or modifications, and you will see for yourselves how versatile they are physiologically, even if very similar in chemical structure. They include the so-called "female sex hormone," oestrin, and also the hormone of the corpus luteum: it is the balance and interaction of these two substances which creates the rhythms so marked in female reproductive physiology. They include the so-called male sex hormones; and the hormones of the adrenal cortex, which are not directly concerned with reproduction but rather with those questions of sodium-potassium balance and of blood-sugar regulation which I have already touched upon. They include the invaluable drugs of the digitalis series and its allies; used by us as a "sheet-anchor in the treatment of diseases of the heart" and by savage African tribes as a poison for their arrows and blow-pipe darts and also for religious ordeals; and there are also some rather similar substances found in one family of animals, the toads, and long used in Chinese (though not in Western) medicine. They include the bile-salts, which enable us to absorb the fats and fat-soluble substances from our foods; and the anti-rachitic vitamins D which play a comparable part in the absorption of calcium; and cholesterol and all its allies, a family probably represented in every living cell; and even certain vegetable alkaoids. It is a long and impressive list; it makes us think of a key-blank, which can in a few minutes be cut and filed to fit this lock or that lock; so here slight changes in this fundamental pattern of eighteen carbon atoms completely change the specific physiological functions and medical uses of the finished compound.

Synthetic Drugs

One's first reaction is a species of hopeless envy. Our synthetic drugs, impressive as they are, do not show this kind of versatility. We have dozens of derivatives of barbituric acid; but they are all narcotics. We have now quite a series of sulfonamides; but their bacteriostatic properties overlap very widely. Diuretics suggest mercury compounds, spirochetes suggest arsenic compounds, and so on; but here we see nature turning the same structure to the most varied uses, with the airy nonchalance of those nightclub conjurors who pour fifty different sorts of drink out of the same cocktail-shaker. One thinks also of that tool of a thousand uses, the old-fashioned hairpin.

One second thought one may realize that there is a certain element of deception in this story. The pharmacologist who needs a new drug for some specific

purpose, has to find a key that will open that particular lock; but nature can also make the lock to fit the key. In any endocrine system, we have not only to consider the gland that produces the hormone, we have also to consider the organ that responds to the hormone, nature can bring the forces of evolution and selection to bear upon both ends of the problem, while we have to influence the tissues as they exist now. Thus the pituitary hormone which stimulates the secretion of milk in mammals seems to serve a fundamentally different function in certain birds.

I shall take the liberty of using the president of the society to illustrate my next point. You all know him; most of you, I suppose, have known him for years—and throughout that time, minor alterations disregarded, he has remained recognizably the same man. But in what sense is he the same man? Has he not consumed three times his own weight of fats, carbohydrates and proteins every year; and does not that mean that his substance is constantly changing, even if his outward appearance remains the same? Viewing him anew in this light, we can but compare him to that other great natural phenomenon, the Niagara Falls: which remains a permanent feature of our national life, though no drop of water remains in it for more than a few seconds. Perhaps that is why it is so inextricably associated in our minds with the state of matrimony.

Recent Trends

A very few years ago this point of view would have seemed farfetched. The physiologist or biochemist would have replied that an automobile may consume its own weight of gasoline in 10,000 miles, but is still made of the same metals at the end as it was at the beginning; and that very probably the solid parts of the human body were only slightly less permanent, and constituted a lasting framework within which the combustion of the foods proceeded as the combustion of gasoline proceeds in a motor.

But the whole trend of recent work is away from this conception, and in favour of what we may call the Niagara-Falls point of view. A man should eat in a year about as much protein as his body contains, say fifty pounds; but within that time the proteins of his liver and his blood-plasma have probably broken down and been replaced, almost completely, at least three times; probably not one-tenth of the red blood corpuscles in a man's body are as much as a year old, and the lives of the white corpuscles must be far shorter. It is not easy to make computations, because when a molecule of protein in one organ breaks down, the fragments may be largely salvaged and rebuilt again into protein elsewhere. When we drink a glass of any aqueous beverage, the water molecules therein will be evenly distributed throughout all the intracellular and extracellular water of the whole body in a few minutes: the average water molecule parks itself within us, it is found, for a stopover of two weeks; this agrees perfectly with earlier estimates that a man consumes as much water as his whole body contains once in every fortnight.

Uniformity of Work

It would take me too long to explain the technical methods by which this kind of knowledge is gained; suffice it to say that it depends on the use of isotopes, that is to say the use of atoms which in all chemical properties resemble the typical atoms of the familiar elements, but are recognizable by having a slightly different weight, or in some cases by being radioactive. All the work of this kind is singularly uniform in its general trend, and it casts a rather odd light upon some philosophical questions of personality. Do you remember the student who said to his teacher, "If I lose the blade of my pocketknife, and get a new one, is it still my knife?" "Certainly," said the professor. "Well, if I now lose the handle, and get a new one, is it still my knife?" "Of course." "Then if somebody finds

the old blade, and the old handle, and puts them together, whose knife would that be?" History does not record the answer. Of course when one has millions of billions of atoms to consider, the chance of their being "put together again" can be neglected. I once amused myself by a rough calculation that each of us contains a thousand carbon atoms that were also present at some time in the body of Julius Caesar, or of any other figure of antiquity whose remains are sufficiently dissipated about the earth.

Isotopes

Isotopes of many elements have been used, especially hydrogen, nitrogen, carbon, phosphorus, iron and iodine; all show in fundamental agreement a picture of the body as constantly engaged in tearing down the large molecules of its various structures into fragments, and as constantly building them up again, while the accumulation of fragments at any one time is inextricably mingled with the similar fragments derived from our digested foodstuffs. These processes, naturally, occur more rapidly for some substances than for others, for some organs more rapidly than for others; yet even the mineral matter of bone and dentin seems to participate in this turmoil, this ardor of reconstruction. Perhaps the enamel is the only material in the body which is virtually exempt from it and truly permanent; in which case we may be said to retain our identity only by the skin of our teeth. But I recall the solemn words of Sir Thomas Browne: "to subsist in bones, and be but pyramidally extant, is a fallacy in duration."

In the motor of an automobile, the highly inflammable vapor of gasoline is suddenly brought to a high pressure and the very high temperature of the electric spark, and it ignites. In our own bodies, substances much less inflammable (such as sugar) undergo the same sort of reaction, and yield up their energy in the same way, although they are present in rather dilute aqueous solution and the fragility of the tissues forbids the use of either high temperatures or powerfully caustic reagents. This has always seemed to me to be the greatest and deepest problem of biochemistry: how do our seemingly stable foodstuffs yield up their energy for our use, under these very unfavorable conditions. Twenty years ago this question seemed almost inaccessible; now it is very largely solved. It would take a week to describe the solution adequately, but I can give you two hints in as many minutes.

Decomposition in Stages

The first is that the decomposition of a molecule such as that of glucose takes place in many stages; the contained energy is released, not explosively but in driblets. We lightheartedly write a chemical equation showing the combination of glucose with oxygen to yield carbon dioxide and water. That single equation tells us nothing about what actually goes on; unless you feel that the words "born 1564, died 1616" make a satisfactory life of Shakespeare. If we break down this reaction into its known component parts, and count them step by step, we find no less than 120 separable stages in the breakdown of a single molecule of glucose, according to current theory.

The second clue is that living matter contains delicate, specific and highly-evolved chemical reagents, which control and facilitate each of these successive stages of decomposition. They are not powerful reagents, indiscriminately destructive like nitric acd, but each is exquisitely adjusted to its particular task. Many, but not all, of them have been isolated and identified; and it was a dramatic and unexpected turn in the story, that many of them proved to be closely related to the vitamins which engage the attention of quite another school of biochemists. At least three of the major vitamins (thiamine, riboflavin, and nicotinic acid or niacin) are known to function in our bodies as parts of these essential reagents which unlock the the energy of our foodstuffs. This ex-

plains, incidentally, why the amount of thiamine we require is linked with the amount of carbohydrate we consume.

Vitamins and Nutrition

This leads me at last to the subject of vitamins and nutrition; the part of biochemistry which seems at the moment to have the greatest interest for the dental profession. But before I launch upon this, may I take a moment to say that I hope I have made clear my general purpose in this address. In another paper I suggested that many textbooks, and presumably many teachers, of biochemistry seemed to me to daze their unhappy students with so many details, so many irrelevancies to memorize, that no realization of the broad general principles of the science can reasonably be expected. Too often the student, parrot-wise, memorizes complex chemical formulae, which bulk large in the textbooks, and which are mere typographical mousetraps to catch the unretentive at examination time. I do not know how well I have succeeded; but it has been my object to suggest to you that biochemistry has its broad principles, its dramatic generalizations, and is not wholly made up of pettifogging details and isolated facts. I took pains, for instance, to keep my discussion of isotopes from becoming detailed, though it was definitely a temptation to pause and dwell upon the application of these new methods to the study of the dentin, which the Rochester group has so promisingly inaugurated. In the same way, I aim at sketching in the vitamins with the broadest strokes of my brush, even at the risk of sinking from portraiture to caricature. Hold on to your hats, while I take you through five thousand years of civilization in five minutes:

"Where Life becomes a spasm
And History a whizz—
If that is not sensation,
I don't know what it is."

Our remotest forefathers lived, I suppose, as the Bushmen or the Pygmies or the Eskimo do today, upon the flesh of the wild animals they could kill, perhaps eked out by wild fruits and the like which they might find. Such diets may be uncertain in supply, but they are nutritionally complete. Because the spoils of the chase are usually eaten fresh and in their entirety, the flesh of animals contains the same chemicals, practically, as human flesh, and hence the body's requirements are automatically supplied. A still closer but superfluous approximation of food-composition to tissue-composition might, I suppose, be provided by cannibalism; which however is of only occasional and ritual significance.

Primitive Diets

We find a slightly higher degree of social organization in wandering tribes, who drive vast herds slowly across the sparse pasture land of countries of little rainfall; the Lapps have their reindeer, the Tibetans their yaks, the Somalis their goats, and so on. Such peoples live principally on the milk of their animals, which are too valuable to slaughter; and this again provides in most respects a balanced diet. It comes as a surprise to those who regard milk as a rather "sissy" beverage to learn that that romantic figure, the Sheikh of the desert, lives almost wholly upon camel's milk, with perhaps a few dates—by "dates" of course I mean the fruit of that name.

We come next to those who practice a primitive and specialized form of agriculture: the miserable cassava-eaters of Java, the rice-eaters of a large part of the East, the yam-eaters of the Solomon Islands, the potato-eaters of Ireland in the hungry forties, and so on. Since the land gives a far higher yield in calories of food per acre, under such a system, than when it is used as pasture or as a mere home for wild animals, populations may become very dense; but in general such diets are ill-balanced, being deficient in protein and in certain minerals (especially calcium and iron) and vitamins, and the physical condition of such peoples is not good. As civilization de-

velops, however, agriculture becomes more diversified, and trade between adjacent regions also improves the variety and the nutritional adequacy of the diets, at least for the well-to-do. It is not until food supply becomes a fairly complex and organized process that we find much difference in the diets of the rich and the poor. The more elaborate the social structure, the more marked this difference becomes.

Economics and Nutrition

The word "economics" has been smartly defined as "the story of what happened in Britain in the nineteenth century." From the nutritional point of view, a good many things did happen. The industrial revolution led to the growth of great cities and congested areas. The timely discovery of the principles of bacteriology and municipal hygiene, and the vigorous application of these principles by nearly all governments, mitigated the danger that epidemics would destroy such close-packed populations. Likewise the timely revolutions in means of transportation made possible the supplying of foods to such populations if necessary from great distances. A curious revolution in food prices went almost unperceived. The cost of processing and manufacturing foods in bulk, and the cost of transporting and storing these manufactured foods, became insignificant in comparison with the cost of handling fresh foods, which could be shipped only with special precautions such as refrigeration, and in which the expense of the inevitable wastage and spoilage had to be covered. Sam Weller, in the "Pickwick Papers," commented on the affinity between poverty and oysters; this reads very curiously today. Our cheapest foods, those which cost less than half a cent per hundred calories of food-energy, include refined lard, refined sugar, white rice, white flour, macaroni, dried peas and beans; many of these have been subjected to quite elaborate manufacturing processes, but all are cheap to store and cheap to ship. This list of cheap foods includes no fruits; no meats except salt pork, which is more than half way to being lard and is stabilized by salting; no vegetables except potatoes and sauerkraut, both of which keep comparatively well. The list will include evaporated milk but not fluid milk; the economy in handling the canned product more than compensates for the cost of evaporating it.

All these methods of refining and processing foods had won vested interest and popular acceptance long before the recent rapid development of knowledge of nutritional principles. Purification was, indeed, confused with cleanliness and there was no one to suggest that the discarded impurities might be nutritionally valuable. So we drifted into our present situation: where fats which, like lard and shortenings, had been thoroughly freed of fat-soluble vitamins, were cheaper than fats which retained them; where the consumption of pure sugar has risen, in a hundred-odd years, from five pounds per head per annum to about 120; where the most accessible and acceptable flours contain three-fourths of the weight but only one-fifth of the vitamin content of the wheat; and so on. Meanwhile even fresh vegetables became poorer sources of vitamin C because they took longer and longer to travel from the field to the consumer. All these factors contributed to the present disturbing situation, wherein, even in countries like yours and mine with a high standard of living, a large proportion of the population fails to attain the vitamin and mineral intakes recommended by nutritionists. In medieval times, poverty was associated with inadequate quantities of food; now, it is associated with inadequate quality.

Deficiency Diseases

Let us pause a moment to examine that phrase, "vitamin and mineral intakes recommended by nutritionists." It deserves consideration. Genuine deficiency diseases are rare in our midst:

rickets, pellagra and infantile scurvy are decreasing; symptoms of riboflavin deficiency are frequently encountered, but are rarely alarming; polyneuritis is rarely severe except in alcoholics; the incidence of nutritional night blindness has been exaggerated; the disquieting abundance of a gingivitis which may depend on lack of vitamin C may be written off as a consequence of the present wartime necessity of cooking meals for large numbers of men at the same time, with the concomitant hazard of increased vitamin destruction. All in all, we find that most of the population get vitamins and minerals enough to prevent genuine deficiency diseases (if we except anemia in middle-aged women). Why then do the nutritionists brand these intakes as inadequate; by what right do they set up higher standards?

The nutritionists believe that for optimal health, growth and vigor, one requires much larger amounts of each vitamin and essential mineral than are required to prevent clinically recognizable disease. This is certainly true in animal experiments; that it is true also in man is indicated by many observations, such as the high incidence of certain diseases, possibly nutrition-conditioned even if apparently bacterial, in the lower classes; and the striking improvement in growth of children receiving vitamin-rich supplements to their ordinary diets. My friends in Toronto, in a recent study of 400 pregnant women from low-income groups, were able to reduce the number of miscarriages, abortions and deaths in the first six months of life from over 10 per cent to zero by the use of such supplementary foods.

Gap Between Standards

One may grant the principle, that there is a wide gap between minimal standards and optimal standards for every food constituent, and still question the actual numerical values of the standards now commonly accepted. Some people seem to regard these values as divinely inspired truths miraculously engraved on stones—gall-stones, I suppose, for it takes a great deal of gall to maintain such an attitude. I should prefer to describe our accepted figures as a series of guesses made by those best qualified to guess right. A few years ago, it was common practice to arrive at a dietary standard by taking an apparently adequate intake and adding a 50 per cent margin of safety—a procedure which we should brand as rather unscientific if it were used in any other field. We should be rather astonished, if the endocrinologists assured us that the truly normal man should have at least three testicles. The standards of the present day are mainly founded on laboratory data: enough thiamin should be given (they tell us) to cause a large fraction of it to be excreted in the urine; enough vitamin C to maintain an arbitrarily selected concentration in the blood. The relation between these analytical values and physical health remains elusive. Let us be frank enough to admit that nutrition today is in the position in which we always optimistically hope to catch our enemies: that of having advanced so rapidly that their lines of communication are seriously endangered. Yet the general principle remains, that optimal intakes are far above the minimal level, and unhappily also far above the levels attained by many of our fellow citizens.

Caries vs. Nutrition

That there is a relation between the problem of caries and the problems of nutrition seems to me certain. It is borne out by the familiar examples of the rapid dental deterioration of primitive races, such as the Eskimo, when they adopt our food habits, and on the other hand the relative rarity of caries in certain isolated communities such as Tristan d'Acunha, or the orphanage so well studied by Koehne and Bunting. The real difficulty is to define the relation more exactly: I confess myself skeptical of many of the solutions that have been so plausibly put forward. It is certain, I think, that vitamin A deficiency during the period of tooth formation may be a cause of hypoplasia and

deformity; that the developing tooth demands adequate supplies of calcium, phosphate and vitamin D, while the dentin at least does not wholly relax these demands in later life; that vitamin C, riboflavin and niacin all affect the health of the buccal tissues as a whole. Granted, gentlemen, granted freely. But is it certain that any of these things is directly and intimately related with the specific question of caries? I take leave to remain unconvinced. Studies in New York and elsewhere indicate that, if one allows for differences in dental care, there is no significant difference in the incidence of caries when rich children are compared with poor: yet all our dietary surveys tell us that the rich children get far more of every known vitamin and essential mineral. I am personally more favorably impressed by the line of thought that associates caries with a high intake of carbohydrate and especially of free sugar.

Future Planning

One final word. In the last century, the governments of all progressive countries accepted, as I have said, responsibility for some types of control of public hygiene: this included not merely sanitation, but surveillance of the bacterial and chemical purity of water and many foods; the challenge of the then youthful science of bacteriology was promptly met. Now comes the challenge of a still younger science, nutrition; will progressive governments accept the responsibility of making adequate diets available to all sections of the community? I think that is the greatest public health question of this generation. So far, little has been done on this continent; we have had school milk plans, and food stamp plans, and government sponsored educational efforts. The idea of a real, planned effort to bring agricultural production and import policy into line with the physiological requirements of the nation has, indeed, been heard of; your own Wallace and Wickard and Morgenthau have spoken in terms that I should rejoice to hear in the voice of any Canadian statesman, but the actual accomplishment is small. Wartime restrictions and difficulties give us a real opportunity to move in this direction, as the example of Great Britain well shows. Only a month ago, one of Britain's leading authorities told me that despite all the difficulties of supply, in that least self-supporting of all countries, one third of the population are now getting better food—not more food, but nutritionally better food—than they did before the war; and that third of the population is the lowest and most necessitous income group. Surely here is a challenge then, that this continent—so much richer in nutritional resources—will not ignore?

Atlantic Charter Codicils

We all have, I suppose, our personal, private footnotes and codicils to the Atlantic Charter; mine, I confess, deal largely with food. Is it impossible to guarantee the farmer a decent living out of producing the foods the nation needs? Must we continue to dump skim milk over the fields when children are stunted for lack of its minerals and vitamins? Shall we always read, in one issue of a newspaper, of famines in China and of immovable surpluses of wheat in American elevators? Will failure to raise hogs continue to be a profitable vocation in a country where thiamin deficiency is known to be widespread? I cannot think so. I cannot think that the economic problem is insoluble, unless we are willing to allow classical and academic economic theory to be our master. I believe that bold sword slash will cut the Gordian knot, and give us at a stroke a sounder and saner social and economic structure, together with an improvement in health and vigor such as the world has yet to see. Agriculture, economics and medicine must take the lead in planning, but all who are concerned with welfare or health are vitally concerned, and

"Even the ranks of Tuscany
Should not refrain to cheer."

McGill University, Montreal, Quebec.

The Armed Forces in the Dental Schools

This is a current article which tells the story of the dental schools in regard to the armed forces. It answers such questions as: Will the army and navy "take over" the dental schools? What will happen to the present student body? How will the students be processed into the armed forces? Will the armed forces change the curriculum, faculties and teaching methods? What about drilling, calisthenics, etc. for the dental student? Will the students wear uniforms, live in barracks and be paid by the government? How will all this affect the dental profession? Are all details of the program settled?

The army and the navy have already begun to enter the three Chicago dental schools.

There has been much misunderstanding of the nature of this change ever since its coming was first announced. Many have heard or used the expression that the armed forces were "taking over" the dental and medical schools. Actually nothing of the sort is occurring. The schools continue their present ownership, their present management, their present faculties. The army and navy simply send some of their soldiers and sailors to the schools as students.

Students Held Commissions

Up until recently virtually all of these professional students held reserve commissions as officers, either in the army or navy (about the only exceptions were those over age, physically disqualified or women). These reserve commissions placed the men in a completely inactive status, out of the jurisdiction of selective service but otherwise indistinguishable from civilians. They had to earn or have their way paid through school just as in normal peace times. In the event they did not make satisfactory progress in school, or defaulted for financial reasons before graduation, they automatically returned to the auspices of selective service. When men did graduate they were re-examined and, if found fit, were made dental officers in the army or navy.

It is now possible for students who hold such reserve commissions to resign them and go on active duty as privates first class in the army or apprentice seamen in the navy. (Up to now it is possible for students who wish to pay their own way and remain in civilian status to do so.)

Many Now Inducted

At the present time a fair sized group from each of the dental schools in Chicago has been inducted into active service in the army. Other groups will be similarly ordered into service in the near future until all those who resign reserve army commissions are so processed. Those with reserve naval commissions will be similarly inducted soon.

The procedure followed for those who were taken into the army was as follows. The entire group met at an appointed time and place (near their school) in Chicago and were then transported to Camp Grant. There they were fitted with uniforms, given a hair cut, which was conducive to much merry-making on their return, inoculated for typhoid fever, given assorted military instruction of a brief and rudimentary character and transported back to Chicago. The entire process required but a few days.

On their return they found officers representing the army and the navy stationed at the schools to direct their activities. Fortunately the army has decided,

perhaps partly in response to the article in *The Journal of the American Medical Association,* that strenuous drilling and physical exercise are not compatible with studious intellectual activity. At present, a little marching on Saturday afternoons is the full extent of military drill given the men. Roll call is at 7:15 a.m., uniform with army camps elsewhere, even though there is often nothing to do between that time and the eight or nine o'clock class that follows.

No Interference

The armed forces do not interfere, criticize, suggest or otherwise attempt to influence the curriculum of the schools. These curricula, as is now well known, have already been accelerated by voluntary action of the schools shortly after the war began, and there is no thought of changing them further. Except for his early morning roll call and the Saturday afternoon drill, the enlisted student goes to school in all respects exactly as he did before his induction. (It is expected that ultimately one or two hours of lecture on military subjects may be given in the school by the army or navy which these students will naturally be required to attend.)

For these rather trivial inconveniences the army pays each student, since he has the rank of a private first class, $55 per month. In addition, because barrack facilities in the neighborhoods of Chicago dental schools were not practicable, each man is paid an additional amount for board and keep. Also, by contract with the schools, the army or navy pays for the students' books, instruments and miscellaneous fees.

Needless to say this all amounts to a windfall of the first magnitude for men who have been doing outside work while attending school in order to pay for all or part of their expenses. Many parents who have been working their boy's way through school will also undoubtedly feel highly relieved.

Inasmuch as the former arrangement of giving reserve commissions to students placed all who were physically qualified in the armed forces immediately upon graduation, it may well be wondered why the army and navy should step in and take the financial burden from the individuals attending school and transfer it to the taxpayer.

The answer to this question apparently lies in the recent beginning of the drafting of boys eighteen and nineteen years old. As soon as boys were taken into the army and navy upon graduation from high school, some provision had to be made to maintain the flow of students into medicine, dentistry, pharmacy, veterinary medicine, chemistry, engineering and the like. Provision for preprofessional collegiate training had to be included, of course.

Probable Selection Basis

Precisely how the students for these courses are to be chosen from among all high school graduates in the future is not yet clear. It will probably be on a basis of high school records combined with competitive examinations and statements of preference from the boys themselves. It is easy to imagine the injustices and misfits resulting from such a procedure, and many boys being sent into work for which they have no liking. It must be admitted, however, that in peace times there have also been injustices when underprivileged boys have not been enabled to go to college regardless of their innate capacities, and certainly there have been some misfits and cases of boys being sent into work for which they had no liking. Inasmuch as the war will probably be over before the new system has a chance to do very much, either for good or ill, in the selection of professional students, dentistry has little to fear.

Many phases of this new program are still being modified, sometimes rather quickly. For that reason some of the foregoing statements may no longer hold good by the time this issue of the JOURNAL is in the mails.—*Warren Willman.*

The President's Page

By Frank J. Hurlstone, D.D.S.

The defeat of the Gunning amendments (Senate bill 402) should arouse the indignation of every member of the dental profession in the state of Illinois. Although this bill had been passed unanimously by the Senate, it was sabotaged in the last hours in the session of the House of Representatives. Those responsible for the defeat of this good legislation should be made known to the profession. Among them were two or three professional lobbyists and the paid legal representatives of unethical dental laboratories. It is likewise depressing to relate that intra-organizational pressures were partly responsible for the defeat of the legislation.

Here are the facts and the occurrences with respect to the defeat of the Gunning bill. First, because it is the simplest to relate, the story of the intra-organizational interference should be told: On four different occasions during the discussions of the bill in the Assembly, proponents of the licensing of oral hygienists attempted to affix amendments permitting such licensure. These approaches, made by dentists, were done independently and without the knowledge of the Illinois State Dental Society. Senators Thomas Gunning, Milton L. Smith and Richard D. Barr were approached and solicited for support of the oral hygienist amendment. The fourth attempt to have the oral hygienist amendment written into the law was to have been made at a hearing of the bill by the Committees on Efficiency and Economy of the House of Representatives. The effect of this independent lobbying on the part of our members created one impression among the legislators: that disunity and discord existed within the membership of organized dentistry. This attitude reacted unfavorably toward us and encouraged opposition to the Gunning bill.

Direct opposition to the amendments first appeared in a greatly delayed meeting of the Committees on Efficiency and Economy conducted under the chairmanship of George A. Williston, 31st District of Chicago. Mr. Williston was not inclined to aid in the progress of our bill, perhaps for the reason that a fellow Chicago ward committeeman, James W. Breen, was a spokesman for the opposition. Another speaker in opposition to the legislation was Joseph S. Batt, the owner of the Cleveland Dental Plate Company, a mail-order denture manufacturer. The bill was voted out of committee. Those voting favorably were Clabaugh, Creighton, Keller, Kulinski and J. A. Mueller; dissenting was M. M. Mueller. The chairman, Mr. Williston, voted present. By this action the amendments were automatically placed on the House calendar to be considered the next day of the legislative season.

For unexplainable reasons the Speaker of the House, E. J. Schnackenberg, would not allow the amendments to be presented to the body until the following week at a late Monday night session. This delay worked to the full advantage of the opposition who kept their lobbyists in full force at the State House. The opponents of the legislation explain their opposition by saying that the law would deprive persons of the means of livelihood. The majority floor leader, Reed F. Cutler, was conspicuous among these.

The first reverse delivered to the bill was the passage of an amendment to strike the section regulating laboratory advertising. This action was initiated upon a motion by M. (Mink) Mueller, of Highland, leader of the opposition. The motion carried seventy-five to sixty. Elsewhere in this issue the names of the seventy-five enemies of the public and the dental profession are recorded; likewise, the names of the sixty friends.

It is distasteful to mention one of the rumors; namely, that money was being offered by the opponents of the bill. The price per vote was variously reported to be from $50 to $300. Although the Gunning bill had the approval of the Department of Registration and Education, the Department of Public Health, the endorsement and support of organized dentistry and the ethical dental laboratories, and although the bill was to have been unanimously passed by the Senate, it was finally defeated in the House by a motion of L. C. Harris, of Granite City, 47th District. Mr. Harris' motion was to strike the enacting clause.

The Gunning bill should not be permitted to die because of this defeat. It is needed legislation. It is the type of legislation already upheld by both the Supreme Court of the United States and the Supreme Court of the state of Illinois. It does not deprive anyone of the right to make a living if he conduct himself in a manner wherein his services are conducive to the public interest. Every member of the Illinois State Dental Society is asked to remember these incidents and to remember the names of the friends and enemies of organized dentistry.

EDITORIAL

THE BIG STICK

TWO major, nefarious lay encroachments on dentistry in the past several years have been dentures made for the patient by mail and dentures made directly for the public by a laboratory. In many instances the same laboratories engaged in both forms of business.

In one of the final sessions of the Illinois House of Representatives, the Gunning bill, Senate bill No. 402, was defeated by organized opposition. The purpose of these amendments was to regulate the advertising of commercial laboratories and define their position in relation to the public. Therefore, the bill was more important to the public than to dentistry; its defeat was unfortunate, not only for this state but, through ramifications, for all states.

The out of state ramifications of this bill are these: It so happens that several of the larger laboratories who are in the "denture by mail" business are located in Illinois. They solicit patronage in all states. Theoretically the making of dentures by mail has now been stopped by a recent act of Congress (the Traynor bill). Actually, these laboratories are temporarily continuing their business under agreement with the federal enforcement agencies. Meanwhile they are frantically looking for a loophole in the federal law. Their latest effort (see page 360 of this issue) is apparently to secure a licensed dentist as a representative in each state to sign a prescription or an order for each mail-order denture case; such a representative will receive a fee of one dollar for each case. With their mail-order denture business in an extremely vulnerable position, passage of the Illinois law might have been the deciding factor in ending these two detestable businesses. Now, defeat of the Illinois bill gives these laboratories a breathing spell and, incidentally, an income by no means small with which to continue their fight against any form of regulation.

These two kinds of businesses are not small and insignificant as many seem to think. It has been estimated that several of these companies sell from ten to twenty thousand dentures a year by mail. Until the extent of the harmful effects are realized and corrected, for each case constructed by such crude methods, some American citizen will be spending hard earned dollars for little return.

The dental societies, both state and national, through appropriate committees, have always supported and fought for measures that would protect the public from anything but the highest standard of service. John W. Green, of Springfield, is chairman of the Committee on Public Policy of the Illinois State Dental Society and Sterling V. Mead, of Washington, D. C., is chairman of the Committee on Legislation of the American Dental Association; both are doing an excellent job.

Is there something that individual dentists can do to help? We would say yes, there is! Below is a list of those state legislators who voted for our cause and those who voted against it. These men are duly elected state representatives; every two years they must ask for support in the elections. Therefore, to the 6,000 individual dentists of the state and their friends there is an obvious course of action; in some circles it is called "shaking the big stick."

FRIEND OR FOE

THE Gunning bill, Senate bill No. 402, was a bill to amend the Dental Practice Act in such a fashion as to make it impossible for the public to be deceived by dental advertising. As mentioned above, in the closing sessions of the House of Repre-

sentatives, the bill was defeated by organized opposition. Dentistry, with many other public spirited groups, supported this important legislation. Now we wish to thank our allies, all those who worked for the passage of the bill. For their information a list of the legislators who voted for and against our cause is printed. Those who voted with organized dentistry have our sincere thanks.

In Support

Adduci
Alpiner
Bruer
Burnsmier
Caton
Cilella
Clabaugh
Creighton
Dillavou
Edwards
Euzzino
Flowerree
Franz, C. D.
Friedland
Gorman, Howard J.
Gorman, John J.
Green, Hugh
Holten
Hunter, E. C.
Keller
Kosinski
Kuklinski
Lawler
Lee
Lewis
Lorton
Marzullo
McCabe
Mueller, J. A.
Novelli
O'Neill, Lottie H.
Peffers
Rategan
Ray
Rennick
Rhodes
Russell
Ryan, James J.
Ryan, John G.
Saltiel
Sandquist
Schuler
Shannon
Smith, J. Ward
Sparks
Stransky
Sullivan
Swanson
Taylor
Thon
Van der Vries
Vicars
Virkus
Welker
Wellinghoff
Westbrook
White, J. M.
Williston
Wood
Mr. Speaker

Opposed

Allison
Armstrong
Ashcraft
Auth
Brands
Branson
Broyles
Brydia
Butler
Crowley
Cutler
Davis, C. A.
Davis, James E.
Dinneen
Donnelly
Donohoo
Fellis
Field
Finucane
Flanigan
Franz, Matt
Garman, Tom M.
Gibbs
Gormley
Grebe
Greene, E. A.
Gulley
Halick
Hannigan
Harris, H. B.
Hart
Hayne
Higgins
Houcek
Hruby
Jenkins
Jezierny
Kelsey
Knauf
Lavezzi
Maloney
McAvoy
McDonald
McMackin
Miller
Mueller, M. M.
Nelson
Noonan
Nowlan
O'Neill, Schaefer
Petrone
Powell
Prescott
Prusinski
Quinn
Robbins
Robison
Ruddy
Salisbury
Samford
Scarborough
Schaumleffel
Skarda
Smith, Fred J.
Smith, Ora
Stanley
Thompson
Thornton
Topping
Upchurch
Walker
Weber
White, H. J.
Wilson
Zientek

Among the legislators we wish especially to thank Representative T. J. Sullivan; his speech, made on the floor of the House, was wonderful. Here is a gentleman of integrity and valor. Others who made a special effort are Representatives J. A. Mueller, Kuklinski, Keller and Shannon. The Illinois State Dental Society commends them highly. The unanimous support given the amendments by the Senate will not be forgotten by members of the society.

READING AND THE DENTIST

The old saying has it that we never stand still; we either go forward or backward. This holds true for us as dentists. We either keep on learning after dental school or we gradually get dim on the things we knew.

One of the important ways of continuing to learn is by reading. For the dentist reading should be of two main types, professional and nonprofessional; each is important. Few dentists, particularly in these war-crowded days have time to read voluminously; but no dentist, today or in five years, can afford not to read. For this reason, with time so precious, reading must be of the correct kind if it is to pay dividends.

How then should the dentist select his reading matter? A certain amount of newspaper and/or news magazine reading must be done both to keep abreast of the times and for ordinary conversational reasons. For example, the dentist should know that Mussolini is out, that King Victor Emmanuel is in; that Stalin seems to have made a side bid for peace with the Nazis; that Jug McSpaden won the All-American Open Championship with a 71, one under par, over Buck White; that Slide Rule is the name of a horse which won $53,450 ($11.80 to win) and not an instrument used by engineers, mathematicians and physicists for making computations; and perhaps he should also know the latest Hollywood slop, that Charlie Chaplin, in his fifties, married eighteen year old Oona O'Neil, while he was in the middle of a juicy paternity fight with one Joan Barry, which court testimony bordered on the salacious much of the time. These are things heard in the every day conversation of the man on the street and in the dental chair.

For this other non-professional and for his professional reading the dentists must select from literally thousands of sources. In both categories magazines must be given some place. Among the non-professional ones he has a free choice; among the professional magazines the active practitioner should read the *Journal of the American Dental Association,* his state dental journal and his local dental society journal or bulletin if there is one. These three will give him excellent and current scientific articles by reputable authors and will also keep him abreast of the latest dental news. Then, if there is magazine reading time left he might glance through several of the proprietary dental magazines.

The last item of reading for the professional man is books. In both professional and nonprofessional classifications there will be many more new books than he can afford to buy or to read. However, this situation does not present quite as great a problem as it sounds. In many places are to be found lists and book reviews of recent professional and nonprofessional books. The prospective reader may consult these before making his choice. In most cases the reviewers are experts either in the general field of books or in a specialty if the book is dental. A review should immediately decide the reader on the importance of that book for him. This policy will save him both time and money and will still keep him up in his reading.

BOOK REVIEW ISSUE

NEXT month the ILLINOIS DENTAL JOURNAL is publishing an issue devoted almost exclusively to book reviews and book subjects. The issue will be devoted in large part to reviews of new professional books, but not exclusively. There will be several reviews of recent fiction and articles about books. Among our reviewers and writers will be Samuel Steward, Ph.D., Harold Hillenbrand, M. K. Hine, Harry Sicher, M.D., P. G. Puterbaugh, John Svoboda, John R. Thompson, Fred F. Molt, Carl Greenwald, Neil D. Vedder, Leonard Fosdick, Ph.D., James H. Keith, Mrs. Josephine Hunt, A.D.A. librarian, the Rev. Norman Weyand, S.J. and members

of the staff of the JOURNAL. Each of these reviewers is well qualified in the field of the book reviewed.

We recommend that the September issue be well read and then saved for future reference. It should be an excellent guide to professional reading of the immediate future.

HARVARD IS BACK

APPROXIMATELY three years ago this writer in the pages of this JOURNAL, along with many other dental writers in other publications, bitterly criticized a new plan of education announced by the dental school of Harvard university. The then new schedule at Harvard was to be about as follows: The dental school was to become a school of dental medicine. The student, upon completion of five years instead of the usual four, was to be awarded both the medical and dental degrees. This was truly a "bargain in degrees" when we consider that normally two such degrees would take eight years of study.

Now, according to a recent announcement of Harvard President Conant, his dental school will again become a real dental school rather than an institution for turning out hybrids, neither dentist nor physician. This editorial is not written as an "I told you so," but rather in the spirit of "Welcome back home again." We believe that the dental profession as a whole did not approve the Harvard plan as announced three years ago; they did not approve because dentistry is a profession by itself, not a specialty of medicine, and because it is quite obvious that eight years of education cannot possibly be crowded into five, even though parts of the teaching overlap.

Therefore we feel sure that the dental profession as a whole is relieved to see this fine old eastern school, with all her traditions, back in the fold again. Dental education should not stagnate, but neither should it run "hog wild."

POSTGRADUATE ASSEMBLY

IN another section of this issue will be found a display page announcing a new society function, The Postgraduate Assembly of the Illinois State Dental Society on War Medicine and Surgery.

This new activity is under the able chairmanship of Edward Ryan and committeemen Moreland Emerson, Arthur E. Glawe, J. E. Mahoney and Lloyd H. Dodd. The Assembly will be held in the form of a one day concentrated class; it will be given in three separate locations on three separate days, Rock Island on October 25, East St. Louis on October 27, and Decatur on October 29.

VACATIONS

VACATIONS have become an American institution; they give the average individual something to plan for and look forward to for one-half of the working year and something to look back at and reminisce about for the other half.

This year vacations cannot be as extended or as extensive as in other years, chiefly because of transportation difficulties—and this is as it should be. However, this year more than most years, vacations are necessary; they are an investment in health. Physical and mental breakdowns do not help the war effort in any industry or profession; they will cripple the dental profession already much understaffed or at best slow down the dentist. America now cannot afford to have any one out of business or even slowed down.

Therefore, to save much time later take a little time off now. A short vacation may not only forestall a long sickness but it will surely step up efficiency and production.—*Wm. P. Schoen, Jr.*

HERE and THERE

Every school child knows that there are five senses (or six, if horse-sense is included) but very few people know that there are a half dozen others as well. These are: the muscular sense (you know it when you flex a muscle); the temperature sense; the pain sense; the distance sense (your eyes tell you whether an object is near or far away); and the static sense (which enables you to keep your balance). Of course, if the senses of hunger, thirst, sex and fatigue are added they make quite an impressive list. And did you ever realize that the touch receptions are closer together in the tongue than anywhere else? If you applied the points of a pair of dividers to the back of your hand, they would have to be an inch and a quarter apart before you could feel them as two separate and distinct points; on the back of your neck, more than two inches, but on your tongue tip only one twenty-fifth of an inch. That is why a tiny tooth cavity feels like a cavern to the exploring tongue.

China's First Lady

One hears some criticism of Madame Chiang Kai-shek, who made a brilliant speech in Chicago's Stadium, sometime ago, to the effect that she appeals only to the intelligentsia. That she is a master of the English language and has a coruscating brain, no one can deny, as witness this passage from her speech which sent your reporter scurrying to the dictionary: "Indehiscence and mawkish maunder will not equip us for our battle through life." Webster defines indehiscence as "a botanical term meaning the state of remaining closed at maturity, said specifically, of many fruits." So, freely translated, the expression could mean the condition of never converting into creative effort the seed of knowledge acquired with growth. The gentleman who introduced her to the Stadium audience proclaimed her "the first woman of the world," and there are few who will wish to contradict him.

Tired

If you're healthy, that tired feeling may be a matter of quality as well as quantity of sleep. It's a question of "how well" as much as "how long." That brings up the irritating and intricate question of "how deep is sleep anyway?" All kinds of experiments seem to prove that most people do their soundest sleeping in the first three hours after going to bed. Some folks sleep deepest the first hour, others not until the second or third. Tossing, turning and light sleeping usually comes towards morning. No matter when you sleep the soundest, mental factors such as worry, unsolved problems, guilty feelings, the deadline (if you get out a column such as this) will affect the quality of your sleep. If you go to bed emotionally upset and wake up feeling the same way, there'll be no doubt in your mind but that you've slept poorly. Subconscious factors are hard to figure out by yourself. A simple thing like a lumpy mattress may be spoiling your rest as much as any mental disturbance would. Too short sheets, uncooperative pillows, too much light, too many mosquitoes (one is too many)—all these things make for that groggy feeling the next morning.

Green thumb seems to be an epidemic which is spreading rapidly throughout the country. Confined, for the most part, to the urban population it is acquired by intimate contact with weeds. Life grew immeasurably brighter, the other day, when we read the new and fuller definition of a weed. Hitherto a weed has been called "a plant growing where it is not wanted." The high-toned lexicographers having gone into plenary session, appeared with this one—"a weed is

a plant growing not only where, but also when, it is not wanted." One small plot twenty-five feet square is enough ground to produce vegetables for a family of four (or so say the seed catalogues) and the care of one small plot is enough to keep the gardener "green thumbed" for a whole season. The man who used to brag when he made the 428 yard fourteenth in four now brags of growing tomato vines four feet high. His victory garden is his pride and joy and he discusses fusarium blight with the ease of a horticulturist. No doubt his disposition will be so improved that his family will rue the day when he takes up golf again.

Warm Springs

The National Foundation for Infantile Paralysis at Warm Springs, Georgia, President Roosevelt's pet project, is seventy odd miles from Atlanta. These warm springs are supposed to have been discovered by the Indians and were used by them to eliminate their aches and pains. Of course, the Indians are always being given credit for discovering medicinal waters, and whether they did or did not discover these does not matter much. The waters come up from springs about 3,800 feet down in the bowels of the earth. The waters, per se, possess no curative qualities, no radioactivity, no special minerals, just plain water. The feature is that the temperature of the water is a constant 89 degrees and never varies year in and year out. Victims of infantile paralysis can relax in water of that temperature and yet it is not warm enough to exhaust nerves and muscles. Then there is the water's specific gravity, which is between salt and fresh as far as its bouyancy is concerned. It is so clear that the body becomes as sunburned under water as out, and it seems to be a perfect transmitter of solar rays. The patients may not be cured when they leave but they are sent back home fitted to live as nearly normal lives as it will ever be possible for them to live.

Headlining the article "Galesburg's Bad Boy," *Time* relates the experiences of Dr. Max Kennedy, of Galesburg, who has been practicing in Nome, Alaska, since August 25, 1941. He was picked out by Nome's only physician as being the man most suited by temperament to get along with the Eskimos in that far-flung outpost of civilization. Dr. Kennedy is reported to have said, "It is a swell place for getting experience. I expect to stay there for a few more years—at least until after the war is over." (He was rejected by the army because of a perforated ear drum). He thinks he can stand it because he is taking in between $1,000 and $2,000 a month gross. Not bad for a young man just out of school.

Gleanings

We see by the papers: This is not time for officers to be fancy about their shirts, the War Department feels. On May 12 Gen. Marshall approved a directive calling attention of officers to the provisions of an order which directs that commanding officers will not require fancy creasing of shirts by laundries or the return of shirts on hangers. Laundries were complaining, apparently, that extra work was required for special ironing sought by military personnel. The War Department announced that there were no regulations requiring special creasing of shirts and furthermore directed that the "wearing of shirts, the fronts or backs of which have been specially creased, is forbidden." If said officers who are so particular about their shirts had to go back to the uniforms of 1917-19 what a real gripe they'd have! . . . During the gold rush days of California, every eastern ship owner thought a fortune was to be made by shipping foods and other necessities to the West Coast. On arrival whole crews would desert ship for the gold fields and cargoes would be abandoned on the docks. So great became the glut that barrels of tobacco were sunk in the mud of the streets and planks laid across them to furnish sidewalks for the pedestrians. Maybe that was the original Tobacco Road?—*James H. Keith.*

Announcement

A full-day Postgraduate Assembly on War Medicine and Surgery, sponsored by the Illinois State Dental Society will be held:

October 25 in Rock Island
October 27 in East St. Louis
October 29 in Decatur

Subjects to be covered:

1. **Surgery in War:**
   a) treatment of shock
   b) treatment of hemorrhage
   c) the use of the sulfa and penicillin drugs
   d) the treatment of fractures.
2. **Medicine in War:**
   a) tropical diseases
   b) military sanitation
   c) military psychiatry
   d) aviation medicine.
3. **Oral and Plastic Surgery in War:**
   Practical aspects of treatment, with particular reference to fractures and facial reconstruction.

All members of the American Dental Association are eligible and invited to attend. ADMITTANCE TO SESSIONS WILL BE BY ADVANCE REGISTRATION ONLY. YOU ARE URGED TO MAKE RESERVATIONS NOW.
Additional details will be announced later.

EDWARD J. RYAN, *Chairman*
MORELAND EMERSON, *Vice-Chairman*
ARTHUR E. GLAWE
J. E. MAHONEY
LLOYD H. DODD

REGISTRATION FORM

DOCTOR L. H. JACOB, *Secretary*
Illinois State Dental Society
Jefferson Building
Peoria, Illinois

Enclosed is the $5.00 registration fee for the full-day Assembly on War Medicine and Surgery.

I expect to attend the session in:
(Please Check Proper Square)

Rock Island	October 25	☐
East St. Louis	October 27	☐
Decatur	October 29	☐

Please send my registration card to:

_____
(Street)

_____
(City)

_____
(Signed)

CURRENT NEWS AND COMMENT

ADDITIONAL NAMES FOR STATE SOCIETY DIRECTORY

The following names of members of the Illinois State Dental Society should be attached to the directory which was published as the July issue of the ILLINOIS DENTAL JOURNAL.

This list includes the names of life members who have retired from active practice and the names of those who are non-resident members of the state society.

Ankeny, Ralph L.* Marseilles. LSIle (C-1902) 1905 (Ret.)
Atchison, J. A.* 3179 Broadway. Chi (C-1897) 1905 (Ret.)
Baird, H. G.* R.F.D. # 2, Granite City. Mad (WU-1907) 1912 (Ret.)
Bayne, R. S.* Henry. Peo (N-1899) 1908 (Ret.)
Bond, H. T.* 22 W. Division St. Chi (N-1899) 1905 (Ret.)
Boyce, Thomas J.* 1119 E. 43rd St. Chi (N-1898) 1906 (Ret.)
Bowyer, Scott P.* 716 Medical & Dental Arts Bldg., Tulsa, Okla. Dec (Ia-1905) 1906 (Non Res)
Bridges, J. S.* 602 Huntley, Los Angeles, Calif. Chi (C-1897) 1898 (Non-Res.)
Brookes, Verne John B. 1558 Union St., Schenectady, N. Y. Chi (C-1918) 1920 (Non-Res.)
Campbell, John.* Bloomington. McL (WU-1870) 1875 (Ret.)
Cigrand, P. J.* 5248 Glenwood Ave. Chi (N-1888) 1896 (Ret.)
Condit, C. H.* Gilman. Kkee 1906 (Ret.)
Crowley, J. F.* 8316 S. Marshfield Ave. Chi (Mar-1900) 1913 (Ret.)
Culhane, A. B.* 503 Trust Bldg., Rockford. Wbgo (C-1901) 1905 (Ret.)
Dodge, Clarence A.* 307 N. Michigan Ave. Chi (Ia-1897) 1905 (Ret.)
Dolby, George H.* 2 E. 54th St., New York, N. Y. Chi (N-1910) 1917 (Non-Res.)
Eisenstaedt, Milton K.* Surf Hotel. Chi (C-1897) 1905 (Ret.)
Gill, John H.* Chi (N-1902) 1908 (Ret.)
Graham, W. M.* 1310 Logan Ave., R. R. # 2, Danville. Chi (N-1898) 1905 (Ret.)
Harris, Sarah.* 6140 Drexel Ave. Chi (O-1883) 1906 (Ret.)
Hopkins, R. Leslie.* 100 W. 52nd St., Minneapolis. WLee (N-1894) 1905 (Ret.)
Hurlbut, C. H.* 629 Belleforte Ave., Oak Park. Chi (C-1896) 1899 (Ret.)
Johnson, F. M.* 1322 Greenwood Ave., Evanston. Chi (C-1889) 1905 (Ret.)
Keefe, J. E.* 5003 Blackstone Ave. Chi (C-1887) 1888 (Ret.)
Land, W. H.* 390 N. Marengo Ave., Apt. 103, Pasadena, Calif. McL (C-1900) 1902 (Ret.)
Lourie, Lloyd S.* General Delivery, Lake Zurich. Chi (Ia-1899) 1905 (Ret.)
Macfarlane, G. B.* 7206 S. Shore Dr. Chi (N-1897) 1905 (Ret.)
Mach, Adolph.* Komensky State University, Bratislava, Czechoslovakia. Chi (C-1903) 1905 (Non-Res.)
Maginnis, Eugene.* 1214 Maple St., Evanston. Chi (N-1902) 1905 (Ret.)
Magnuson, J. E.* Orion. RI (C-1895) 1897 (Ret.)
MaWhinney, E.* Chi (C-1887) 1899 (Ret.)
McGregor, G. F.* 1345 North Shore Dr. Chi (C-1910) 1911 (Ret.)
McRae, A.* Clinton. Dec (C-1904) 1906 (Ret.)
Montag, C. F.* 13050 Western Ave., Blue Island. Chi (UP-1893) 1899 (Ret.)
Mulford, T. T.* 260 E. Gates St., Columbus. WGdy (N-1908) 1909 (Ret.)
Norton, J. P.* 427 Wisconsin Ave., Oak Park. Chi (C-1902) 1905 (Ret.)
Opitz, H. H.* 1049 Montana St. Chi (Ger-1897) 1906 (Ret.)
Patterson, C. M.* 325 W. 3rd Ave., Long Beach, Calif. Chi (UP-1902) 1909 (Ret.)
Pearce, Robert M.* 320 Halesworth St., Santa Ana, Calif. RI (C-1891) 1891 (Ret.)
Peters, C. Frank.* 230 Hanssler Pl., Peoria. Peo 1897 (Ret.)
Raleigh, Robert E.* 3820 Gladys Ave. Chi (C-1898) 1906 (Ret.)
Reeves, W. T.* 533 Thorn St., San Diego, Calif. Chi (C-1891) 1899 (Non-Res.)
Roach, F. E.* Temple Terrace, R.F.D. # 2, Box 1030, Tampa, Fla. Chi (N-1894) 1899 (Ret.)
Rodosy, Adolph.* 25 E. Washington St. Chi (I-1901) 1908 (Ret.)
Scherer, W. H. 1620 Medical Arts Bldg., Houston, Tex. Chi (O-1900) 1911 (Non-Res.)
Semerak, William A.* 1803 Blue Island Ave. Chi (Ger-1900) 1906 (Ret.)
Shaw, W. M. 1112 Republic Bldg., Denver, Colo. Chi (C-1902) 1905 (Non-Res.)
Smith, Arthur G.* Box 665, Tryon, N. C. Peo (Har-1894) 1905 (Ret.)
Smith, C. Carroll, 906 N. Sheridan Rd., Peoria. Peo (Ia-1891) 1918 (Ret.)
Smith, G. W.* Virginia. GVB (WU-1898) 1900 (Ret.)
Sowle, Charles J. Spring Creek Rd., Rockford. Wbgo (C-1895) 1901 (Ret.)
Sterne, M. L.* 4884 Coronado Ave., San Diego, Calif. Chi (C-1903) 1905 (Ret.)
Tichy, Joseph.* Crocket Bldg., E. Las Vegas, N. Mex. Chi (N-1901) 1904 (Non-Res.)
Torrence, L. B.* Chester. SClr (Van-1890) 1905 (Ret.)
Tristram, George T.* Box 357, Melbourne, Fla. Chi (N-1901) 1908 (Ret.)
Trompen, C. N.* 1111 S. Corona St., Denver, Colo. Chi (C-1890) 1909 (Ret.)
Van Tuyl, Harry I.* Box E, Hinsdale. Chi (Mich-1894, N-1904) 1905 (Ret.)
Vaughan, Hugh A.* 2834 Ave. C, Bradentown, Fla. Dec (UL-1898) 1902 (Ret.)
Whalen, W. F. 915 Dempster St., Evanston. Peo (C-1892) 1900 (Ret.)
Whipple, Henry L.* 2418 E. Second St., Long Beach, Calif. Gilm (C-1894) 1896 (Ret.)
Wikoff, Benjamin D.* 5939 Race Ave. Chi (O-1880) 1888 (Ret.)
Williamson, G. W.* 30 N. Main St., Champaign. CDan (N-1913) 1914 (Ret.)

STATE SOCIETY TO HOLD POSTGRADUATE ASSEMBLIES

The Illinois State Dental Society will sponsor a full day postgraduate assembly on War Medicine and Surgery during October. The assembly will be held in Rock Island on October 25, in East St. Louis on October 27 and in Decatur on October 29. Edward J. Ryan is chairman of the committee in charge. Moreland Emerson is vice-chairman and other members of the committee are Arthur E. Glawe, of Rock Island, James E. Mahoney, of Wood River, and Lloyd H. Dodd, of Decatur.

The subjects to be covered under surgery in war, are treatment of shock, treatment of hemorrhage, the use of the sulfa and penicillin drugs and the treatment of fractures. The general subject of medicine in war will include tropical diseases, military sanitation, military psychiatry and aviation medicine. Lectures on oral and plastic surgery in war will cover the practical aspects of treatment, with particular reference to fractures and facial reconstruction.

Admittance to the sessions will be by advance registration only. A registration blank will be found elsewhere in this issue. All members are urged to make reservations early. Applications for registration should be sent directly to the secretary of the Illinois State Dental Society, L. H. Jacob, 634 Jefferson Building, Peoria. A check for five dollars should accompany the application.

DRAFT DIRECTOR CLARIFIES STATUS OF DENTISTS

The following statement by Col. Paul G. Armstrong, state director of selective service for Illinois, will clarify the recently published stories (in the local press) that waivers for age could be requested from the Commanding General of the Service Command by the state director of selective service for dentists who have been declared available by the War Manpower Commission, Procurement and Assignment Service, in the age group of thirty-eight to forty-four inclusive.

Since the present age limit for dentists seeking commissions in the armed forces is forty-two, the selective service director has stated that he will not request the age waivers for dentists who have passed the forty-second anniversary of their birth.

Although the above statement applies to conditions as they exist today, it was stated that requests for age waivers would be made, if the age limit (for voluntary entrance into the services) was raised by the armed forces.

SEEK NEW DODGE IN MAIL-ORDER DENTURE LAW

Since the recent enactment of the federal mail-order denture bill, which makes it illegal to manufacture dentures by mail, the various laboratories in this business, notably the Cleveland Dental Plate Company, of East St. Louis, and a group of Chicago laboratories, have been looking for a method by which the provisions of the law may be circumvented. That they think they have hit upon such a method is evidenced by the following letters received from Sterling V. Mead, chairman of the Committee on Legislation of the American Dental Association. Any one with further information relative to this matter should get in touch with John W. Green, 805 First National Bank Building, Springfield, chairman of the Committee on Public Policy of the Illinois State Dental Society.

The text of the letters received from Dr. Mead follow:

American Dental Association
Committee on Legislation

July 15, 1943

TO: Editor of the Illinois Dental Journal.

Dear Doctor:

I am enclosing a copy of a letter I have received from a dentist relative to the mail-order denture practice. This will give you an idea what these people are endeavoring to do in order to circumvent our law. It will be necessary for each state to be on the lookout for this practice and prevent these people from carrying out their scheme.

It might be possible, in some states, to revoke the license of a dentist who is willing to cooperate with these people in this way.

If you have any suggestions to make as to the most feasible method for stopping this practice or if you know of any additional information concerning this situation kindly advise me.

Please put this letter and a note in your state Journal and do what you can to help stop this practice.

Sincerely yours,

Sterling V. Mead, chairman
Committee on Legislation,
1149 Sixteenth St., N.W.,
Washington, D.C.

June 28, 1943

Dr. Harry B. Pinney, Sec'y,
American Dental Association
222 E. Superior Street
Chicago, Illinois

Dear Dr. Pinney:

In presenting to you and the A.D.A. what is to me a new scheme in the "mail-order denture business," I regret the necessity of including some personal remarks.

My professional activities have been confined almost entirely to the field of denture prosthesis. That, naturally would cause me to be less tolerant with the subject mentioned above.

It became necessary for me to retire from private practice some years ago because of a disability resulting from a spinal injury sustained during the first world war. Then I organized the research and clinical department of the—Dental Mfg. Co., and remained with that company until it was necessary for me to submit to further treatment.

Now that my physical condition is improved I am anxious to become active, but it would be unwise to go back into practice and bend over a chair and, until I am sure of myself, I do not want to return to my former work with a dental manufacturer.

So, I answered this advertisement which appeared in a local paper:

> DENTIST WANTED:—Opportunity for reliable licensed dentist to represent us in the state of ———. No selling. Duties of advisory capacity requiring very little time can be handled from dental office or home. Could use retired dentist. For full details write us giving age and brief outline of your background. Box ——.

In response to a phone call I went to a local hotel to talk with Mr. Nevill D. Giles representing the Cleveland Dental Plate Co., 503-505 Missouri Ave., East St. Louis, Illinois, regarding the above advertisement.

Mr. Giles, who later said he was a dentist, unfolded the following information.

The Cleveland Dental Plate Co. operates two separate departments; a commercial dental laboratory which takes care of the work from dentists and a mail-order laboratory which deals directly with the public.

He went into great detail to explain their volume of business and that they would continue to operate regardless of the law.

To circumvent recent laws or regulations the Cleveland Dental Plate Co. now requires "authorization" by a local dentist before starting any piece of work. Along with impression material, bite wax and instruction sheet sent to a prospective patient there is now included a blank entitled "Authorization Form." The patient is instructed to write his name, address and service required on this blank and mail immediately enclosing one dollar, in the envelope which is stamped and addressed to a dentist—who is registered in that particular state. Upon receipt of his dollar and the blank properly filled in by the patient the dentist signs his name and address and mails the form to the company in an envelope supplied for that purpose. The company then notifies the patient that his dental work has been authorized by Dr. X and the impressions, bites and etc., should be mailed at once.

This "public relations representative," Mr. Giles, is making a tour of the country to appoint dentists who will represent the Cleveland Dental Plate Co., in each state for one dollar per patient.

The boldness with which this was explained was shocking, but I withheld any comment until I got all the information, then expressed my opinion of the proposition and ended the interview.

During my twenty-seven years as a member of the dental profession and the A.D.A. and all my contacts with dentists over most of this country I have never heard of anything to compare with this.

You may be familiar with this "improved mail-order denture scheme"; if so, I am sorry to have imposed upon your time to this extent.

Yours very truly,

ABOLISH LIMITED SERVICE CLASSIFICATION

The classification of enlisted men as limited service was abolished by the army effective August 1.

All enlisted men now classified as limited service whose records indicate that they do not meet current mental and physical standards for induction will be physically examined. Those who can meet the present minimum standards will be retained on active service and all references to limited service will be stricken from their service records.

Men in service who cannot meet the necessary minimum standards for induction will be discharged, except that a man who is physically qualified to do his present job may be kept on duty if his commanding officer wishes to retain him.

Controlled numbers of enlisted men who do not meet current physical standards for general military service will continue to be accepted by the army. In addition to physical requirements, acceptance of such men will be con-

tingent upon their ability, skill, intelligence and aptitude. These new, below-standard men will not be assigned initally to divisions, combat support units or replacement training centers of the army ground forces. In the case of these men as well as in the present limited service personnel, no reference to limited service will be carried on service records.

FIRST REPORT ON STATE BOND DRIVE

An incomplete report on the results of the recent war bond drive conducted by the Illinois State Dental Society has been released by J. R. Blayney, general chairman. The single sales from the metropolitan area of Chicago amounted to $20,302 and the continuous purchase plan sales totaled $24,500. Chicago Heights reported single sales amounting to $2,475. Winnebago component purchased bonds worth $10,150. The total from the Peoria component was $26,050 and from the McLean component, $8,250. The total amount reported for the entire state at the present time is $91,727. "As soon as the returns from the other components throughout the state are received they will be tabulated and an indication of the response made by the profession during the drive will be available," stated Dr. Blayney.

NEW REGULATIONS ON JOURNAL MAILING LIST

Recently enacted postal regulations have made it necessary to add zone numbers to all addresses in metropolitan areas. The zone numbers must be used on all addresses in Chicago, Decatur and Peoria in Illinois.

The mailing list for the ILLINOIS DENTAL JOURNAL is compiled from addressograph labels. The new regulations make it necessary that all these labels be corrected. The metal for the labels and the labor used in making them are under priority control. For this reason the corrections on the JOURNAL mailing list may take some time for completion. The state society is sorry for any inconvenience that may result but the members may be assured that the changes will be made as rapidly as possible.

NYA KILLED BY CONGRESS

The National Youth Administration was abolished by vote of the Senate on July 3. The agency was savagely attacked in the House when its appropriation request for forty-eight million dollars came up. The House ordered its liquidation and appropriated three million dollars for the purpose. The move was fought in the Senate at first and a counter-amendment to appropriate the forty-eight million dollars to operate for the fiscal year was supported by that body.

The action in the Senate was taken over the protests of Senator Harry S. Truman, of Missouri, a member of the Senate's war investigating committee. Truman argued that NYA training of youths for war work was essential.

ARMY SEEKS DENTAL HYGIENISTS

Dental and oral hygienists are needed in army hospitals and dispensaries throughout the United States, according to a recent bulletin from the United States Civil Service Commission. The need is particularly great in the West and Southwest.

The positions are under federal civil service and applications from registered hygienists to fill the vacancies are sought. Under new requirements for hygienists, no experience is necessary. Persons may qualify by having completed a full course in a recognized school for oral hygiene and being registered as a dental or oral hygienist in a state, territory or the District of Columbia. Students in oral hygiene courses may apply and enter on duty upon the completion of the course and registration. Dentists who have been graduated from a recognized school will also be accepted.

There are no age limits, no written tests and no residence requirements. The starting salary is $1,970 a year. This amount includes pay for eight hours of overtime each week included in the

present forty-eight hour week for all federal service. Applicants who are willing to go anywhere in the United States will have the best opportunity for rapid appointment.

Since federal appointments are made in conformance with War Manpower Commission policies and employment stabilization plans, persons now using their highest skills in war work should not apply.

Application forms may be obtained at post offices, at civil service regional offices and at the United States Civil Service Commission in Washington, D.C.

COUNTY HEALTH BILL PASSED BY STATE

S. 244, recently passed by the state legislation, provides for the establishment of county and multiple-county public health departments. Each county health department will be managed by a board of seven members, two of whom shall be physicians licensed to practice in Illinois, and one shall be a dentist licensed in Illinois. A multiple-county health department will be managed by a board consisting of three members from each county represented; of these three, one member from each county must be a duly licensed physician and one must be a licensed dentist. The executive officer of either a county or multiple-county unit will be the chief medical officer and must be a citizen and a licensed physician. The chief medical officer must possess qualifications meeting the approval of the state Department of Public Health.

The bill is entirely optional, requiring no action in the counties except by their own volition. No county need create a health department unless it so desires and, once created, it may be discontinued in the same manner it was established. Creation or discontinuation of a county health department may be effected by resolution of the county board or by referendum. However, the tax may be levied only upon referendum and may not exceed one mill on the dollar.

Existing city health departments will not be affected by the new bill unless the city votes to integrate with the county departments.

ARMY SENDS 2,000,000 OVERSEAS IN YEAR

The army transportation corps reported on July 31 that in its first year of operation it had moved 2,000,000 troops overseas to more than fifty countries and United States possessions.

The report listed other accomplishments as: 20,000,000 tons of army cargo sent overseas, an average of seven and one-half tons per man per month, exclusive of lend-lease tonnage; supervised movement of 25,000,000 troops by domestic carriers, four-fifths of them by rail; moved 7,000,000 inductees by rail.

The rail movements required the issuance of 90,000 separate troops movement orders for the transport of 12,000,000 troops using 72,368 coaches, 241,166 sleeping cars, 49,987 baggage cars and 101,881 cars.

The corps also moved more than 80,000,000 tons of army freight and express shipments by rail and nearly 6,000,000 tons by highway.

SEVEN ILLINOIS SCHOOLS AND HOSPITALS TO JOIN OCD UNITS

Seven Illinois hospitals and medical schools have been invited to form affiliated hospital units of civilian physicians and dentists under the program of the Office of Civilian Defense and the United States Public Health Service to provide supplementary staffs for emergency base hospitals to assist the army in extemporized hospitals in a serious military emergency. The schools and hospitals are: Loyola University, School of Medicine, Chicago; Michael Reese Hospital, Chicago; Northwestern University Medical School, Chicago; University of Chicago, School of Medicine, Chicago; University

of Illinois, College of Medicine, Chicago; St. Luke's Hospital, Chicago and Springfield Memorial Hospital, Springfield.

Members of these units will receive inactive commissions in the United States Public Health Service and will be called to active duty by the Surgeon General only on the recommendation of the chief medical officer of the Office of Civilian Defense. Each of the units consists of thirteen physicians and surgeons, a dentist, a pathologist and a radiologist.

At the request of the War Department these units will be expanded to include more than 200 hospitals and schools.

DENTAL FIRST AID TAUGHT TO SUBMARINE CREWS

The navy has recently inaugurated a program to take care of dental emergencies occurring on board submarines. A course of instruction in the treatment of various dental emergencies has been instituted. A small group of pharmacists' mates are assigned regularly to a dental clinic to observe various conditions and forms of treatment used. A small drug kit for use in treating dental conditions is accompanied by a mimeographed sheet covering treatments and symptoms.

ESTABLISH ARMY PHARMACY CORPS

Legislation which abolishes the medical administrative corps of the regular army and sets up a pharmacy corps was signed recently by the President.

The first step to be taken to carry out the act will be to issue new commissions in the pharmacy corps to fifty-eight members of the regular army medical administrative corps. The medical administrative corps remains as a component of the Army of the United States, but not of the regular army. In this respect the status of the medical administrative corps will be similar to that of the sanitary corps which exists in the reserve only.

The new pharmacy corps will have a strength of fifty-eight officers, of which sixteen are pharmacists and forty-two are world war I veterans who were originally placed in the MAC. The new corps, like the old corps, will have authorized strength of seventy-two officers, but the new corps will be permitted to carry its non-pharmacists as extra numbers.

After suitable regulations have been prepared, annual examinations will be given pharmacists, just as examinations are held for medical, dental and veterinary officers, and a small number will be appointed competitively each year.

Applicants under the law must be graduates of recognized four year pharmacy schools; must be between twenty-one and thirty-two years of age. Original appointments will be made in the grade of second lieutentants.

The fifty-eight officers now in the MAC will be transferred to the new corps in grade. However, further promotions will be in line for the majority of those officers as the new law provides that second lieutenants must be advanced to first lieutenants after three years of service; that after six years of service officers shall be advanced to captain; after twelve years to major; after twenty years to lieutenant colonels and after twenty-six years to colonel.

ANNOUNCE GOAL FOR THIRD WAR LOAN DRIVE

The goal of the third war loan drive has been set at $16,000,000,000. The drive is scheduled to start on September 9. The first drive, last December, sought $9,000,000,000, and the second, held in April, called for $13,000,000,000. In the coming drive the commercial banks, which subscribed $5,000,000,000 in April, will not be included. The money is to come from individuals, businesses and other sources.

R. J. WELLS APPOINTED VICE-CHAIRMAN OF STATE P. & A.

Robert J. Wells, of Chicago, has been appointed vice-chairman for dentists in the Bureau of Placement, Procurement and Assignment Service, War Manpower Commission, effective July 1. Dr. Wells was appointed to assist William I. McNeil, state chairman, in the task of clearing commission applications from Illinois dentists.

INTRODUCE LEGISLATION FOR WOMEN DENTISTS

Legislation to authorize the appointment of women dentists in the army and navy for the duration of the war was recently introduced into the House of Representatives by John J. Sparkman, of Alabama. Mr. Sparkman is the author of the bill, recently passed, which permits the appointment of women physicians in the military services.

DENTAL REHABILITATION TO BE UNDERTAKEN BY NAVY

Because dental standards for enrollees in the navy have been lowered recently, the Navy Department has announced that it will undertake the rehabilitation of personnel requiring prosthetic dental replacements.

Laboratories will be established at recruit training depots throughout the United States to carry out the extensive program planned. As a result of the new program many additional dental officers, as well as enlisted personnel trained in the field of prosthetic dentistry will be needed. It is expected that additional building facilities will soon be erected to house these clinics.

RECORD LOW DEATH RATE IN EVACUATION HOSPITALS

Maj. Gen. Norman T. Kirk, Surgeon General of the army, is reported to have said recently that the death rate in the army's evacuation hospitals during the African campaign was "the lowest rate of any army at any time" and was between 2.5 and 3.5 per cent of admissions in comparison with a mortality rate of 15 per cent in such hospitals during world war I. Blood plasma, excellent surgery and sulfanamide drugs were credited by Gen. Kirk as being responsible for the low record. He said that blood plasma given at the front lines saved many lives which would have been lost if it had not been available for the treatment of shock cases. Gen. Kirk added that "the cream of surgery in America, the middle-aged and the younger men who have been teaching" have been stationed at evacuation hospitals at the front.

THE DENTAL OFFICER IN THE ARMY AND NAVY

(Continued from page 336)

Africa—and some failed to land. The exploits in which many of our dental officers have played an important part are legion and their additional duties, in emergencies, have even comprehended the drilling of companies. One reports having acted as chaplain.

Afloat, ashore at a home base or based outside the continental limits of the United States, the officer must be prepared to handle fractures and give initial care in maxillo-facial injuries and wounds. Later care is assumed to be given by specialists in hospitals particularly adapted for such work.

Collateral duties may include acting as mess-treasurer, sitting as a member of a court martial, taking inventories or any task to which he may be assigned.

There are many factors in the prospective life of the navy dental officer other than the allure of a cosmopolitan experience. Never was it more true that one could "join the navy and see the world." With the possibility of rapid advancement and the background of professional and financial security a commission in the navy dental corps has much to offer as a career for the young dentist.—*Great Lakes, Illinois.*

THE NOTEBOOK

Secondary Syphilis:—The oral lesions of secondary syphilis are as infectious as the chancre. They too assume many forms. There may be a simple erythema of the palate or the characteristic mucus patches which appear as sharply defined oval ulcers. The split papule at the commissures of the lips is a highly infectious lesion. These luetic manifestations are associated with marked lymphadenopathy which in the presence of any moist or ulcerating oral lesion should arouse suspicion. The Wassermann reaction is more helpful in secondary syphilis, but again the more direct and positive method of diagnosis is the finding of the spirochete in the dark field.

As disastrous as overlooking infectious syphilis may be the opposite error of labelling as syphilitic every lesion that occurs in the Wassermann positive patient. The national instance of Wassermann positivity varies between a figure of less than one per cent, as seen in ordinary practice, to the astounding figure of 30 per cent or more, as observed in the under-privileged, indigent citizen of our southern states. Perhaps two-thirds of those with positive Wassermann live and die without syphilitic manifestations. In consequence, the mere finding of a positive Wassermann does not prove that the clinical manifestation is syphilitis. However, the lesion that is dark-field positive is definitely both syphilitic and infectious.—The Interrelationship Between the Physician and the Dentist in Private Practice. Hyman, Harold T. *N. Y. J. Dent.* 13:181 (May) 1943.

The Use of Dental Man Power in England:—The stage at which the places of those called up for service with the dental branches of the forces could readily be filled has long been passed and District Dental War Committees are finding it increasingly difficult to release men from their civilian practices in order to meet the demands of the Services for still more dental officers. With but few exceptions the men who are now being given commissions in the dental branches are engaged in busy practices and they, not unnaturally, are inclined to ask themselves whether their transfer to the forces will not result in a diminution of the total amount of dental service which is being given to the community as a whole.

No one would suggest that there should be any cutting down of the treatment being given members of the forces but, on the other hand, it is hardly less necessary that adequate dental treatment should be available for the civilian population, particularly for that large proportion of which is engaged directly in the production of the munitions of war and in maintaining essential services.

A situation such as this calls for the most stringent economy of the use of man power, both in the Services and in civilian practice, and we are glad to know that the Services have already taken many steps to eliminate waste in this direction. They are, for instance, co-operating to provide a single dental service for all the forces stationed in a given area where the number of men in each force is insufficient to occupy the full time of an office of the dental branch of that service. Some areas have been divided between the Services in this way, with a consequent saving not only of dental man power, but also of combatant man power and transport. One branch of the Service is, we understand, about to experiment with the engagement of women dental surgeons on the same terms as it now employs men officers. Whilst this step will not, in theory, add to the man power available it will make it possible for a corresponding number of experienced men to be retarded in civilian practice and so relieve the pressure to some small extent.—*The British Dental Journal* via *N. Y. J. Dent.* 13:187 (May) 1943.

Mysterious Mixed Tumors of Salivary Glands:—McFarland has collected approximately 400 cases of mixed tumors of the salivary glands—that is, the parotid, the submaxillary and the sublingual—that were seen at various hospitals in and around Philadelphia during more than twenty-five years. His method of finding cases is to examine microscopic slides of salivary gland tumors as may have accumulated in the laboratories, to select the ones that conform to the taxonomic requirements and then to review the protocols for the essential clinical information. Some 200 patients in six Philadelphia hospitals were operated on by seventy-three surgeons. The microscopic structure of these tumors is extremely variable. Harvey, Dawson and Innes made use of fifty-four photomicrographs to explain the variation of their appearance. With such complexity it may become difficult to decide whether a given tumor is a mixed tumor or not. The inclusion or exclusion of such tumors must depend on the theory of origin to which one inclines. If one follows Cuneo and Veau and Chevassu in believing that the tumors arise through the "enclavement" of embryonal substance in the developing face and neck, they may be retained, if, on the other hand, the origin of the tumors from neoplasia of the respective salivary glands is accepted, they must be eliminated. The author's studies agree with the latter,

now popular, view. His analysis of the infiltrative growth, local destructive properties, recurrence, metastasis, local interference with function and general toxic action of absorbed tumor products leaves him in some perplexity as to whether mixed tumors are malignant or not. A good deal of this is the result of the different terminology used by pathologists. It might be best to say that they are mixed tumors and will probably recur. There has been an occasional recurrence twenty, thirty and forty years after operation. In mixed tumors postponing surgical intervention ordinarily has everything in its favor. It is wiser not to operate as long as the patient is willing to wait. It seems useless to attempt to control or modify the growth of the tumor or to postpone its recurrence by the use of x-rays or radium. Supposed indications for complete surgical excision are the embarrassment caused the patient by the disfigurement, limited and difficult movement of the mandible, pain from pressure on the sensory nerves and a sudden and rapid increase in the size of the tumor. If the tumor is a mixed tumor, rapid growth usually supervenes after it has existed for years. If the tumor is a carcinoma, its excision usually fails to afford much benefit, as the patient dies regardless of treatment. As for results of treatment among the author's series of collected cases at least half of the recurrences were and many still are believed by their surgeons to have been cured. Doctors fail to follow up their patients, forgetting that as many as forty years may elapse before a recurrence presents itself.—Mysterious Mixed Tumors of Salivary Glands. McFarland, J. *Sur. Gyn. Obs.* 76:23 (Jan.) 1943 via *J.A.M.A.* 122:64 (May 1) 1943.

Ludwig's Angina:—Williams and Guralnick[1] advocate in the treatment of Ludwig's angina early radical surgical intervention, use of sulfonamide compounds, zinc peroxide dressings in the presence of anaerobes and preliminary exposure of the trachea in every case prior to operation, or tracheotomy in the presence of respiratory embarrassment. Intravenous pentothal sodium is recommended as the most satisfactory anesthetic. The mortality in a recent group of 20 cases treated by this method at the Boston City Hospital amounted to only 10 per cent, whereas the mortality in Williams and Guralnick's previous series of 31 cases was 54 per cent. In both groups a dental lesion constituted the predominant etiologic factor—the initiating lesion in 18 (90 per cent) of the latter series. Dental extractions immediately preceded the onset of symptoms in 12. The act of extraction is not so important from the standpoint of etiology as is the preexisting septic tooth or mouth from which the subsequent spread of infection arises. Bacteriologic studies in these 20 cases revealed the presence of streptococci in all and the presence of Vincent's organisms in 50 per cent. Examination was not made for the presence of the microaerophilic streptococcus described by Meleney. Because of the presence of streptococci in all cases, the authors felt that sulfonamides were indicated throughout the disease. However, in their experience chemotherapy alone could not be relied on in these synergistic infections and was regarded by them as secondary to the early radical incision of the area. The sulfonamides were used both generally and locally. In some cases they placed 5 to 8 Gm. of sulfanilamide crystals in the depth of the wound and loosely packed it with iodoform gauze. Meleney's method[2] of treating foul mouth and neck infections with zinc peroxide was found to be most effective in the presence of Vincent's organisms. In such cases dressings saturated with zinc peroxide frequently yielded a clean, odorless wound in a very short time. The prophylactic use of zinc peroxide powder for several days prior to extraction would undoubtedly reduce the number of cases of this formidable infection.—Current Comment. *J.A.M.A.* 122:678 (July 3) 1943.

Vitamin K and Dental Caries:—I have rerecently read a brief statement about the use of vitamin K in the prevention of dental caries. Have you any information as to indications, dosage recommended and results thus far reported?

It has been found on the basis of in vitro and in vivo experiments that vitamin K will materially inhibit acid formation in the mouth. However, these studies are still in an experimental stage. The evidence on hand is insufficient to indicate the use of vitamin K as a therapeutic measure for dental caries.—Queries and Minor Notes. *J.A.M.A.* 122:571 (June 19) 1943.

Advantage of Professional Integration:—In the private practices of medicine and dentistry, a thoughtful, professional integration is often of advantage to all concerned. The interrelationship may manifest itself in a variety of ways. The medical practitioner, in the course of his physical examination, surveys the mouth and suggests dental care when important defects are visible. Parenthetically, it is essential for him to recognize that the torus palatinus is a harmless congenital defect and not a neoplasm as so many patients suspect. The dentist ob-

[1] Williams, A. C., and Guralnick, W. C.: The Diagnosis and Treatment of Ludwig's Angina: A Report of Twenty Cases. *New England J. Med.* 228:443 (April 8) 1943.

[2] Meleney, F. L.: The Prophylactic and Active Use of Zinc Peroxide in Foul Smelling Mouth and Neck Infections, *Ann. Surg.* 107:32 (Jan.) 1938.

serves oral evidences of systemic disease, which he calls to the attention of the physician. His recognition of the more basic etiological mechanisms prevent prolonged and unsuccessful local treatment and indicate the necessity for rational systemic therapy. Cooperation in therapeutics requires often that the initiative be taken by the physician who should insist that the mouth be placed in excellent condition during pregnancy; before the institution of surgical procedures requiring an inhalation anesthetic; in patients with chronic illness, particularly where there is a possibility of deficiency states developing; in convalescents and before and during local irradiation therapy.

The dentist, on his part, should not attempt the systemic administration of potent drugs, nor should he initiate the general treatment of local manifestations. It is also the greater part of wisdom for him to consult with the physician before he attempts extensive surgical procedures, more especially those that require the administration of an anesthetic.—The Interrelationship Between the Physician and the Dentist in Private Practice. Hyman, Harold T. *N. Y. J. Dent.* 13:180 (May) 1943.

Dental Infections and Urinary Infections:—Are infections about the teeth considered one of the sources of infected (surgical) kidney? I am informed that this opinion is now obsolete and untrue.

Infections about the teeth are definitely considered the source for infected kidneys of any type. There is nothing especially characteristic about this type of infection that would make it surgical but any kidney infection, under proper conditions, may become subject to surgery.

It is a general procedure in the urologic clinics of the country to search for distant foci and eradicate them in the presence of upper urinary tract infections of any sort.—Queries and Minor Notes. *J.A.M.A.* 122:642 (June 26) 1943.

Carious Lesions in Molar Teeth of Hamsters:—Arnold's studies indicated that diets containing cereal, like those used to induce caries in rats, were also effective in hamsters. He determined whether the size of the cereal had the same etiologic influence on dental caries in hamsters as it does in rats. Carious lesions were not, as was the case in rats, dependent on the coarse particle cereal in the diet, as caries was most extensive in animals fed a finely ground cornmeal ration. This result suggests the possibility of adapting a strictly synthetic diet to the study of experimental caries in these animals. The two distinct types of lesions observed were caries in the pits and fissures of the occlusal area of the molar teeth and caries in the cervical portions of the proximal surfaces, mostly in the upper and lower first molars.—Production of Carious Lesions in Molar Teeth of Hamsters (Cricetus Auratus) Arnold, F. A., Jr. *Pub. H. Rep.* 57:1599 (Oct. 23) 1942 via *J.A.M.A.* 121: 292 (Jan. 23) 1943.

Niacin in Vincent's Infection:—Johnson gave 25 to 50 mg. of niacin three times a day to adults and 10 mg. or more to children with Vincent's angina. The most spectacular results were obtained in the acute cases. A typical case is that of a 17 year old girl with ulcers of the pharynx, enlarged cervical lymph nodes and a temperature of 103 F. A smear showed numerous Vincent's organisms. Niacin in 25 mg. doses three times daily resulted within forty-eight hours in normal temperature and disappearance of ulcers. A smear taken on the fifth day was negative. The substance was found useful in the acute cases of gum involvement and helpful in chronic cases in conjunction with local treatment. Its use keeps the mouth cleaner and apparently greatly retards the formation of tartar. It has been of decided value in pyorrhea even when Vincent's organisms were not present.—Nicotinic Acid (Niacin) in Treatment of Vincent's Infection. Johnson, W. M. *N. Car. Med. J.* 4:51 (Feb.) 1943 Via *J.A.M.A.* 122:341 (May 29) 1943.

Dental Neuralgia:—A married woman aged 47 had the roots of the left upper incisors and canine teeth removed in September 1942. Since then she has been complaining of a pulling sensation over the left cheek, on the left eye and forehead, which has been annoying. There is slight tenderness just below and medial to the left infraorbital foramen. There are no other physical findings. X-ray examination of the upper jaws and sinuses is negative. Kindly discuss the diagnosis, treatment and probable duration of this condition.

This patient probably has a dental neuralgia due to disease in the gums of the left upper jaw. Despite the fact that roentgenograms of this region fail to show any abnormalities, there may be present in the gums another root that is exposed or there may be some caries. A competent dentist should examine this patient in detail looking for roots, caries and small openings. He should use a dental mirror. The treatment consists in removal of the foreign substance, treatment of the caries or finally laceration of the gums. This case does not appear to be a trigeminal neuralgia but a dental neuralgia. The pain should disappear when the cause is removed.—Queries and Minor Notes. *J.A.M.A.* 122:410 (June 5) 1943.

Experimental Dental Lesions of Glandular Origin:—Tachella Costa and his collaborators subjected young dogs to thyroparathyroidectomies in order to ascertain whether dental disorders would result. In some of the animals the loss of parathyroids did not cause early or late tetany, probably because of the existence of aberrant parathyroids. The teeth in these dogs were smaller, the implantation was defective and the eruption retarded. In the dogs in which thyroparathyroidectomy resulted in postoperative tetany the dental lesions were more pronounced; they involved the calcification, leading to the destruction of the enamel and exposure of the dentin. The lesions are the result of changes in the calcium metabolism, which in turn had been caused by the parathyroid deficiency. Compensatory endocrine treatment did not modify the lesions.—Experimental Lesions of Dental Origin. Tachella Costa, A. O., Barañao, A. C. and Fratantoni, F. *Rev. Med. Lat.-Am.* 28:43 (Oct.) 1943 via *J.A.M.A.* 122:471 (June 12) 1943.

Metastasis of Mixed Tumors of Salivary Glands:—Mulligan's review of the localization of the metastases of 20 previously reported cases and 1 of his own shows that metastases were present in the lungs of 18, the pleurae of 12, the liver of 10, the bones of 8, the lymph nodes of 6, the kidneys of 3 and the spleen of 2. The term "cylindroma" was employed in the microscopic description of the tumor of 8. In 4 others, from the description given, this same appearance was present. In 5 the designation was "mixed tumor," in 2 "adenocarcinoma" and in 2 "malignant glandular epithelioma" and "alveolar sarcoma." The data suggest that when a patient in the fourth to the seventh decade of life has a tumor of a salivary gland a thorough examination must rule out metastasis if operation or irradiation of the primary tumor is contemplated.—Metastasis of Mixed Tumors of Salivary Glands. Mulligan, R. M. *Arch. Path.* 35:357 (Mar.) 1943 via *J.A.M.A.* 122:337 (May 29) 1943.

Malpractice: Chronic Osteomyelitis Following Extraction of Tooth:—Marquess, a dentist practicing in Fresno, Calif., in the employ of Kennedy, another dentist, was consulted by the plaintiff, July 22, 1938, relative to a toothache. He discovered a deep carious condition in the second lower left molar, which he cleaned and into which he inserted a temporary filling, instructing the patient to return in four days or sooner if suffering from pain. After returning home the patient became feverish and suffered such pain that she was confined to bed. Three days later she was taken to the dentist's office. The tooth was extracted after two injections of cocaine had been given—one "to effect a mandible block" and the other in the tissues adjoining the tooth. According to the patient, the dentist "did not apply iodine or any other solution to her gums before injecting the cocaine," nor did he take or recommend the taking of a roentgenogram of her teeth. According to the dentist, there was no infection of the tooth or in the socket from which it was extracted. After the extraction, the gums were sutured and the patient was instructed to wash her mouth with warm salt water and to apply ice packs. She was then taken home and put to bed. The next day she returned to the dentist's office. Her jaw then was swollen and she was suffering much pain. What the dentist did on this visit is not made clear in the reported opinion. She returned home to bed, but her condition became worse and her family physician was called and found her temperature above normal and her jaw infected. Under his treatment her condition was so improved that she was taken to see the defendant dentist again on July 30, when he advised her to consult a specialist, which was done. Subsequently she was hospitalized for fourteen days during the first four of which she was in a semicomatose condition. Abscesses which had formed inside the lower jaw beneath the socket from which the tooth had been extracted and under the chin were lanced from the outside and drained. The gum was also lanced and drained. In January 1939 a diagnosis of chronic osteomyelitis of the left mandible was made at a hospital in San Francisco. On March 27 an incision was made under the jaw at the site of the previous lancing and bone and granular substances were removed. An incision was also made in the surrounding gum tissues and bone was removed and the sockets curetted. Following these procedures she was confined in the hospital until April 9. In December 1939 another abscess which was forming was drained. As late as July 1940, apparently, the patient was receiving treatment for her condition. She instituted suit for malpractice against Marquess, the dentist who originally had treated her, and against Kennedy, his employer. The trial court granted a motion for a nonsuit and entered a judgment in favor of the defendants, and the patient appealed to the district court of appeal, fourth district, California.

At the trial a dentist practicing in Fresno was called as a witness by the plaintiff and testified that according to the standards of the practice of dentistry prevailing in Fresno, the town in which the dental services in question were performed, the defendant Marquess should have had a roentgenogram taken before extracting the tooth and should have applied iodine or some other disinfectant to the gums before inserting a hypodermic needle in them and extracting the tooth. Since, said the appellate court, where a motion for a nonsuit is granted, we must accept as true any

substantial evidence tending to support a judgment for the plaintiff, we must take the following facts as established in this case: That the standards of practice of dentistry in Fresno required that defendant Marquess have an x-ray film taken or at least recommend that an x-ray be taken of the aching tooth and jaw, and also that he sterilize the gums before inserting the hypodermic needle and pulling the tooth; that he did neither of these things and therefore did not employ the training, care and skill required of dentists of good standing practicing in the community. If this failure on the part of Marquess was the proximate cause of the infection from which the patient suffered, the nonsuit was erroneously granted. We may also accept, continued the court, as established facts that immediately after the extraction there was no infection on the roots of the tooth or in the sockets and that a serious infection set in which caused the plaintiff much suffering and expense over a period of two years.

As corroborative of the correctness of its view, the court discussed at some length *Barham* v. *Widing*, 210 Cal. 206, 291 P. 173. In that case a dentist was accused of malpractice because he failed to sterilize the hypodermic needle used in injecting an anesthetic, and to sterilize the gums before extracting a tooth.

In that case the Supreme Court of California said:

"Under the circumstances of this case there is a remote possibility that the infection developed from some cause other than the defendant's failure to sterilize the needle or the gum into which it was inserted, but the evidence is sufficient upon which to warrant the jury in finding that it was caused by his negligence in failing to follow these reasonable precautions in spite of his testimony to the contrary. The jurors were entitled to accept the solution to which these circumstances led them in preference, even, to the positive statements of the defendant and his nurse to the contrary. After the verdict of a jury has been fairly rendered, all the circumstances of the case, together with every reasonable inference which may be drawn therefrom, will be marshaled in support of the judgment. Because of the very subtleness of the origin and development of disease, less certainty is required in proof thereof. As the court says in the case of *Dimock* v. *Miller*, 202 Cal. 668, 671, 262 P. 311, 312:

'If . . . it is necessary to demonstrate conclusively and beyond the possibility of a doubt that the negligence resulted in the injury, it would never be possible to recover in a case of negligence in the practice of a profession which is not an exact science.'

"It is not necessary in the trial of civil cases that the circumstances shall establish the negligence of the defendant as the proximate cause of injury with such absolute certainty as to exclude every other conclusion. It is sufficient if there is substantial evidence upon which to reasonably support the judgment. *Ley* v. *Bishopp*, 88 Cal. App. 313, 316, 263 P. 369. . . .

"It was not necessary for any dentist or physician to state that the conduct of the defendant was negligent or in conflict with the usual established practice of the profession in that vicinity to administer a local anesthetic for the purpose of extracting a tooth without sterilizing the needle or the flesh into which it is inserted. The court will take judicial knowledge of the necessity to use ordinary care to procure sterilization under such circumstances."

The defendant dentist sought to distinguish the facts in the present case from the Barham case, because there the infection started from the exact spot of the injection, while here it was in the general locality but not necessarily in the exact spot of the injections. This distinction, said the court, is too tenuous to be sound. Here the infection was in the region where the needle pierced the unsterilized gums, and the reasonable inference might follow, if drawn by the jury, that a germ on the unsterile gums was carried into the tissue on the needle and caused the infection. The result of an unsterile condition is a matter of common knowledge under the cases already cited.

The defendant dentist next argued that, assuming there was a failure to conform to the standards of good practice of dentistry in Fresno, still there is nothing in the record to establish that this lack of care was the proximate cause of the infection. The same argument, said the court, was made and rejected in the Barham case just cited. A like argument was advanced by the defendant dentist in *Dimock* v. *Miller*, 202 Cal. 668, 262 P. 311, in which a dentist was accused of malpractice in failing to sterilize his needle before giving a hypodermic injection and in using impure water in the solution injected. It was held in that case that a plaintiff was not required to exclude all factors, other than those mentioned, as causes of the infection. Where the results of negligence on the part of a physician or dentist, continued the court, are peculiarly within the knowledge of expert witnesses, the testimony of those expert witnesses is a necessary element of a plaintiff's case. The danger of infection from an unsterile instrument, or a dirty field of operation, is a matter of such common knowledge that a jury is authorized to draw the reasonable inference that an infection was caused by negligence when an unsterile instrument is used, or the operative field is not properly sterilized.

As further corroborative of the correctness of its holding, the district court discussed *Roberts* v. *Parker*, 121 Cal. App. 264, 8 P. (2d) 908, in which a dentist was sued for

malpractice when osteomyelitis of the jaw bone set in after an extraction had been performed and in which no roentgenogram had been taken prior to the extraction to determine the condition of the field of operation. In that case expert witnesses testified that under the standards of good practice prevailing in the community a roentgenogram should have been taken before the tooth was extracted. There was evidence introduced on behalf of the dentist tending to prove that the disease had its source other than in the extraction of a tooth. It was argued that here was nothing to show that the failure to use due care on the part of the dentist was the proximate cause of the osteomyelitis.

In disposing of this argument the court in the Roberts case said:

"Therefore, if in spite of the testimony tending to show a different origin of the disease there be testimony to sustain the opposite conclusion which has been reached by the jury, its verdict must be sustained. In other words after the verdict of the jury has been fairly rendered, all the circumstances of the case, together with any reasonable inference which may be drawn therefrom will be marshaled in support of the judgment. . . . Measured by the foregoing rules, the circumstances of the present case are legally sufficient to sustain the jury's verdict."

A like rule, continued the court, must be invoked when the trial court grants a motion for a nonsuit.

The district court of appeal concluded that there was some substantial evidence in the record and that reasonable inferences could be drawn from that evidence, pointing to the lack of due care on the part of the defendant Marquess as being the proximate cause of the disease suffered by the plaintiff. It follows, in the opinion of the court, that questions of fact were presented for the decision by the jury and that the motion for a nonsuit was improperly granted by the trial court. Accordingly, the judgment, in effect, dismissing the suit was reversed.—*Mastro* v. *Kennedy,* 134 P. (2d) 865 (Calif., 1943) via *J.A.M.A.,* 112: 893 (July 24) 1943.

Failure of Riboflavin Therapy in Patients with the Accepted Picture of Riboflavin Deficiency:—In the literature, certain clinical phenomena have been attributed to a deficiency in riboflavin. These are cheilosis; dermatitis in the nasolabial fold, on the alae nasae, in the ears, etc.; vascularization of the cornea; glossitis, and pemphigus vulgaris. Twenty cases with symptoms ascribed to riboflavin deficiency were studied and treated with a synthetic riboflavin preparation. When no result was obtained after a certain period, dosage was increased, and if then without effect, the riboflavin was suspended and separate courses of pyridoxine, nicotinic acid, ascorbic acid or the whole B vitamin complex were administered. Cases of cheilosis were non-specific, responding variously to each agent. In view of conflicting data in the literature and the experience gained in this study, serious doubt exists relative to the syndrome of ariboflavinosis.—Machella, T. E. and McDonald, P. R. *Am. J. M. Sc.* 205:214, (Feb.) 1943.

Effect of Fluorine on Dental Caries:—A complete résumé is given of all former work to date regarding fluorine as related to dental caries. Theories about its action, and the importance of its presence in drinking water are described. It is proposed to test the accuracy of the caries-fluorine hypothesis by deliberately placing non-toxic doses (14.7 pounds of sodium fluoride per million gallons of water) in the public drinking water of one community, and using a comparable community with fluorine-free water as a control. The study would extend over a period of from ten to twelve years.—Ast, D. B. *U. S. Pub. Health Rep.* 58:23 (June 4) 1943.

Moulages as an Aid to Maxillofacial Restorations:—Facial reproductions are used in maxillo-facial surgery for working models for surgical prosthesis or as records of preoperative and postoperative results. They are also employed in planning the direction of an incision, affording a three-dimensional view of the structures to be worked on. The hydrocolloids and paraffin are used to obtain the impressions, the former being preferred. The impression is reinforced with plaster of Paris, which is also used in pouring the mold. The technic is simple and can be mastered by most practitioners.—Barron J. B. *Mil. Surgeon* 92: 511 (May) 1943.

Wire Suturing in the Treatment of Facial Fractures:—Stainless steel suture has proved valuable in the treatment of fractures of the facial bones. In the reduction of seven malar, two maxillary and fifteen (one condyle) mandibular fractures, only three infections occurred. Two were in soft tissue only, and in the third, a case of angle fracture of the mandible, osteomyelitis developed. The wires remained in place in spite of the soft tissue infection. In two cases, wires were inserted through an incision in the oral mucous membrane without complication. Wire sutures allow accurate reduction and local fixation and, in mandibular fractures, control fragments that otherwise would be difficult to manage.—Gordon, Stuart D. *Canad. M. A. J.* 48:406 (May) 1943.

OBITUARY

CHARLES S. HART
1868 - 1943

Dr. Charles S. Hart died suddenly at his home in Lake Geneva, Wisconsin on May 13. Dr. Hart was born in Dodge City, Kansas on May 28, 1868 and moved to Evanston at an early age. After completing his law course, he decided to study dentistry and was graduated from Northwestern University Dental School in 1903. He became a member of the Illinois State Dental Society in 1920.

Dr. Hart retired from practice about ten years ago and moved to Lake Geneva. He was a member of Delta Sigma Delta fraternity and the American Dental Association.

He is survived by his wife and one daughter. Burial was in Cambridge, Wisconsin.—*Charles R. Baker.*

ARTHUR W. WAGNER
1889 - 1943

Dr. Arthur W. Wagner, life member of the Illinois State Dental Society, died of a heart attack at the Missouri Baptist hospital, St. Louis, on June 13. Dr. Wagner became a member of the state society in 1918 through the St. Clair component.

He was born near Hecker, Illinois on February 16, 1889, the son of Rudolph and Susan Wagner. He attended the Hecker elementary school, Illinois State Normal University at Normal, and Southern Illinois Normal University at Carbondale. He was graduated from St. Louis University Dental School in 1916. Immediately following his graduation he began the practice of dentistry in Belleville and had practiced there continuously since that time.

Dr. Wagner played baseball extensively as a young man and lately had become an ardent bowling fan. He took an active interest in high school sports. He was also a keen hunter and fisherman; in the past few years he hunted extensively for moose, bear and deer in the Northwest.

He married Nellie Stehfest on February 5, 1918. Dr. Wagner is survived by his widow and three sons, Lt. (jg) Myron, Virgil and Arthur. He is also survived by a brother, Dr. E. R. Wagner, a dentist in St. Louis, and four sisters.

Dr. Wagner was a member of the American Dental Association, the Benevolent and Protective Order of Elks, the Turner Society and the Liederkranz Society.

HARRY D. NORTON
1891 - 1943

Dr. Harry D. Norton, of Evanston, died following a heart attack on June 6. He was fifty-two years old. Dr. Norton was participating in a cross country horse back ride when he was stricken and died en route to the hospital.

He was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University in 1914 and became a member of the Illinois State Dental Society through the Chicago component in 1938.

Dr. Norton specialized in oral surgery. He was a Mason and a member of the Medinah Club of Chicago, the American Dental Association, and on the staff of the Franklin Boulevard hospital. He is survived by his wife and twin children, Joan and Harry D., Jr.

FRANK J. KOLAR
1870 - 1943

Dr. Frank J. Kolar, retired Chicago dentist, died at his home in Cicero on June 4. Dr. Kolar had practiced dentistry for fifty years when he retired three years ago. He was graduated from the

Chicago College of Dental Surgery, School of Dentistry, Loyola University, in 1890 and became a member of the Illinois State Dental Society in 1905. He became a life member of the society in 1930.

Dr. Kolar is survived by a brother and three sisters. Funeral services were held on June 7.

JOHN E. ELDER
1887 - 1943

Dr. John E. Elder died at his home in Eldorado on April 2. He was born April 29, 1887 in Eldorado and received his preliminary education in the local schools. He was graduated from Washington University, School of Dentistry, St. Louis, in 1910 and became a member of the Illinois State Dental Society through the Southern Illinois component in 1933.

Dr. Elder had practiced in Eldorado for thirty-three years. He was a member of the Illinois State Board of Dental Examiners in 1915. He was also a member of the American Dental Association.

Dr. Elder is survived by a son, Charles W., also a member of the state society, who is now serving with the armed forces.—*J. L. Pickard.*

ALBERT T. ROSS
1883 - 1942

Dr. Albert T. Ross, of Sheldon, Illinois, died on April 9, 1942. He was graduated from Northwestern University Dental School in 1907 and joined the Illinois State Dental Society through the Kankakee component in 1940. He was born in Rossville, Illinois on April 14, 1883.

Dr. Ross practiced in Carrier Mills, Illinois for eleven years and moved to Sheldon in 1918 where he practiced until his death. He is survived by his widow, two daughters and one son. Burial was at Hoopeston.

LAWRENCE C. FEY
1893-1943

Dr. Lawrence C. Fey, of Chicago, died at his home on June 28 after a long illness. Dr. Fey was graduated from the Chicago College of Dental Surgery, School of Dentistry, Loyola University, in 1920 and had practiced in Chicago since that time.

He became a member of the Illinois State Dental Society through the Chicago component in 1924 and was also a member of the American Dental Association. Dr. Fey was a fourth degree Knight of Columbus, an active member of St. Barnabas church and past president of the St. Ignatius Fathers club.

He is survived by his wife, Angeline Dages Fey, two sons, three daughters and two sisters. He was the nephew of H. C. Waack, life member of the state society.

Funeral services were held on June 29 at St. Barnabas church. Burial was in Holy Sepulchre cemetery.—*Henry Kahn.*

LOUIS E. COONRADT
1872-1943

During his seventy-first year, a sudden illness brought to a close the life of Louis E. Coonradt, who, though born in Michigan, had lived from boyhood in Decatur. His father was head of the science department in the Decatur high school for nearly forty years—a most outstanding man and teacher who, with a fine mother, furnished an unusual background for Dr. Coonradt.

Dr. Coonradt was graduated from the University of Michigan, School of Dentistry, in 1895 and had practiced in Decatur since his graduation. Two years ago his health restricted his practice to an office improvised in his home.

He had been an active member of the Illinois State Dental Society since 1905 and a life member since 1930. Dr. Coonradt had an almost unbroken record of attendance at the annual meetings of the state society. He had served on many

(Continued on page 375)

COMPONENT SOCIETIES

CHAMPAIGN-DANVILLE

The golf enthusiasts of the Champaign-Danville Dental Society enjoyed the seventh annual Play Day on June 17 at the Champaign Country club. Thirty-five of the forty-three present participated in the golf tournament. Prizes were also given for the best appetite and the most cultured eater. Practically everyone received a prize. These ranged from golf bags, tooth brushes, clocks, etc., to picnic baskets. Representation was excellent as men from the farthest corners of the district were present. Chanute Field was represented by seven officers, three of whom brought their clubs.

Homer Burt, of La Salle, was low man with 81. Paul Berryhill, of Decatur, was second with an 82.

Les Rasmussen, of Urbana, began taking his golf seriously and last week made a 79 on the Urbana course. Naturally this did not make any impression on the Play Day Committee, headed by Max Rose, of Champaign. Kenneth Waxler, of Urbana, received first prize under the Peoria handicap system.—*C. H. Puterbaugh, component editor.*

PEORIA

In spite of H' and high water we had our annual picnic. We were flooded out of Shore Acres Country club but L. E. Steward was able to get us in at the Mount Hawley Country club. From the turnout for golf I am convinced that "Uncle Sam" knows what he is doing in picking dentists for service. Eleven played golf and the rest must be 4F or plenty essential.

Up until 7 o'clock it looked as though twenty would have to eat sixty-five chicken dinners. However, by that time the thirty had grown to fifty-four. This was the first time I have had my feet under the speakers' table so we had them serve the extras to the "Brass Hats" first.

John Powers was crowned golf champion. C. E. Bollinger entertained as usual and the boys assisted for hours. A storm blew the lights out but the singing continued by candle light. Funny how some voices sound at a picnic!

Wonder who the dentist was who was called for his physical and, when challenged at the gate by a guard, who said, "Are you trying to break in here?" replied, "No, I'm trying to stay out but the army wants me."

There isn't any news from the boys in service and besides I like to mow my lawn on Thursday.—*J. F. Murray, component editor.*

DECATUR

Harold Foster, of Moweaqua, retired as president in May after rounding out a year of fine programs. These were under the direction of T. J. Campbell and included such essayists as Keith, Buecheler, John B. LaDue, Warren Willman, James Robinson and Harold Hillenbrand, each one tops in his field.

The society contributed nearly 300 barrels of scrap material and bought many war bonds and are still buying them.

By far the majority of the members attended the annual meeting in Peoria. Lloyd Dodd presented an excellent paper on practice management and directed the sessions of the Dental Health Education Committee. W. W. Winter, T. J. Campbell and Bert Alsip presented table clinics.

Six of our members have entered the armed services. Maj. Austin C. Stiles is now in charge of a fifteen chair clinic at Camp Ellis; Maj. Parke Waggoner is at Camp McCoy, Wisconsin; Lt. C. L. Quackenbush, when last heard from, was at Drew Field, Florida; Lt. Wayne

Grissom is serving with the navy at Memphis, Tennessee; Lt. William Hacker is with the Coast Guard at Hancock, Michigan; Lt. Harold Holmes is stationed at Fort Logan, Colorado and Lt. A. E. Helm is at Camp Howze, Texas. We send them all our sincere regards.

Paul Berryhill, of Decatur, became president of the society on June 1. His first official act was to draft that veteran program chairman, Lloyd Dodd, for duty another year. Being present at the drafting ceremony was a rare privilege. It had all the elements of a blitz—speed, surprise, crushing weight and mop-up—which left the otherwise loquacious Lloyd practically speechless. His acceptance assures a high calibre program for next winter. Indeed all eight of them are already arranged and will be announced next month. In addition, a special program is being planned for late October, the details also to be announced later.

H. L. Freidinger reports an enjoyable visit with the G. V. Black Dental Society at its annual picnic. Paul Berryhill and Al Schlitz represented us at Champaign's annual outing, which was of its usual high quality. Paul came in with low gross and Al was just a few strokes behind.

Leo Reid has charge of arrangements for our own picnic which is scheduled for the near future.

We all deeply regret the loss of two of our members within the past few weeks, J. M. LeGier and L. E. Coonradt. Obituaries of these men appear elsewhere in this issue.—*Wray S. Monroe, component editor.*

OBITUARY

(Continued from page 373)

committees in the society and was a past member of the Executive Council. Dr. Coonradt was a member of the American Dental Association and Delta Sigma Delta fraternity. He had been extremely active in the affairs of the Decatur Dental Society and had served in almost every capacity. Few dentists have been more loyal or set a finer example as supporting members of organized dentistry. Such activities brought him wide acquaintance, which was ever his joy and pride.

To the local society and particularly his local friends, Lew stood out as an example of a jolly good fellow. His rare ability as a raconteur endeared him always; his dignity of bearing, his unruffled way of living, even when the way was not smooth, was inspiring and admirable to those with whom he came in contact.

In succeeding his father as the first Decatur official government weather observer, Dr. Coonradt, with his father, had served in that capacity since 1892.

Dr. Coonradt is survived by his wife and two sons.

Our community has lost a good citizen, his church a supporting member, the profession an earnest practitioner, his family a beloved husband and father, and his associates, the jolly good friend and companion they so highly esteemed and will ever remember.—*J. F. F. Waltz.*

JOSEPH M. LE GIER
1902-1943

After a severe illness of several months, Joseph M. LeGier, of Decatur, died at the home of his mother in Keensburg, Illinois. He was graduated from St. Louis University Dental School in 1929. Previous to this he had completed two years premedical training at Washington University, St. Louis.

Dr. LeGier practiced dentistry in St. Louis for eleven years following his graduation. He came to Decatur in 1940 and became a member of the Illinois State Dental Society through the Decatur component in 1941. He was also a member of the American Dental Association, Psi Omega fraternity and Delta Sigma Phi fraternity. He belonged to Lodge No. 401, B.P.O.E. in Decatur.

He is survived by his parents and one sister.—*Edmund J. Douglas.*

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G. V. Black	John T. Hatcher *Springfield*	C. F. Deatherage *Springfield*	2nd Thursday in each month except July, August and September.
Champaign-Danville	G. W. Akerly *Milford*	Bruce Martin *Danville*	4th Thursday of March and October.
Chicago	Leo W. Kremer *Chicago*	Harry Hartley *Chicago*	3rd Tuesday of each month except June, July and August.
Decatur	Paul Berryhill *Decatur*	W. Winter *Decatur*	2nd Tuesday of each month except May, June, July and August.
Eastern Illinois	John A. Phillips *Arcola*	J. A. Wren *Paris*	April and September.
Fox River	W. B. Downs *Aurora*	G. B. Atchison *Elgin*	3rd Wednesday in each month.
T. L. Gilmer	L. W. Ridpath *Warsaw*	K. W. Ringland *Quincy*	1st Tuesday and Wednesday in November.
Kankakee	W. J. Cunningham *Kankakee*	L. W. Creek *Kankakee*	3rd Thursday in March and September.
Knox	C. A. Treece *Galesburg*	Leo Burcky *Galva*	1st Thursday in each month except June, July and August.
LaSalle	W. P. Daugherty *Ottawa*	V. J. Piscitelli *LaSalle*	April and October.
McLean	Elmer Engeljohn *Bloomington*	Carl L. Green *Bloomington*	1st Monday in each month, October to April inclusive.
Madison	T. P. Francis *Collinsville*	W. H. Schroeder *Edwardsville*	February and October.
Northwest	B. S. Tyler *Freeport*	Lou H. Matter *Freeport*	2nd Monday of each month, September to May.
Peoria	A. L. McDonough *Peoria*	A. Alexander *Peoria*	1st Monday of each month except July, August and September.
Rock Island	I. I. Morton *Rock Island*	J. H. Nichols *Rock Island*	3rd Tuesday in each month, September to May inclusive.
St. Clair	Carl Glenn *Marissa*	R. A. Hundley *East St. Louis*	3rd Thursday in January.
Southern Illinois	C. E. Boyles *DuQuoin*	J. L. Pickard *Benton*	Semi-annual, March and October.
Wabash River	G. I. Lewis *Dieterich*	H. W. Kinney *Robinson*	Annual, Second Wednesday in October.
Warren	H. W. Stott *Monmouth*	E. B. Knights *Monmouth*	3rd Monday of each month except June, July and August.
Whiteside-Lee	C. P. Danreiter *Sterling*	H. Lyle Acton *Sterling*	Every two months; around the 15th.
Will-Grundy	Joseph W. Zelko *Joliet*	David N. Bradley *Joliet*	2nd Thursday in January, March, May, September, November and December.
Winnebago	Fred L. Mead *Rockford*	A. H. Veline *Rockford*	2nd Wednesday in each month except June, July, August and September.

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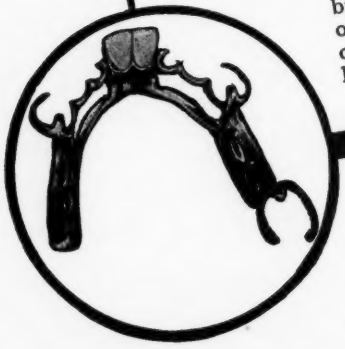

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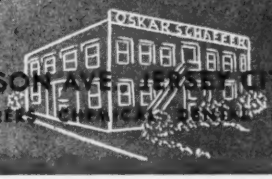

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